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Greater Prescott Trails
Mid-Term Projects #2
DRAFT Environmental Assessment

Forest Service Prescott National Forest Bradshaw Ranger District August 2018

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Introduction

The Bradshaw Ranger District is proposing to improve the Forest trail system in the Prescott Basin and neighboring areas by constructing, rerouting, and/or adopting 61 miles of motorized trails and obliterating/decommissioning 40 miles of system and unauthorized trails; constructing 1.1 miles of new road, and implementing a seasonal closure on approximately 1/2 mile of road; constructing 2 new trailheads, decommissioning 1 trailhead, and improving 2 existing staging areas within the Bradshaw Ranger District, Prescott National Forest.

We prepared this environmental assessment to determine whether effects of the proposed activities may be significant enough to prepare an environmental impact statement. By preparing this environmental assessment, we are fulfilling agency policy and direction to comply with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. For more details of the proposed action, see the "Proposed Action" section of this document on p. 3.

Location of the Proposed Project Area

The project is located in the greater Prescott Basin, which is divided into five recreation zone planning areas, four of which are on the Prescott National Forest, as shown in the figure below. This proposal would take place in three of those planning areas – areas B, C, and D – with the majority of the activities taking place along the Walker Road corridor in area D, the Lynx Lake Blue Hills area.

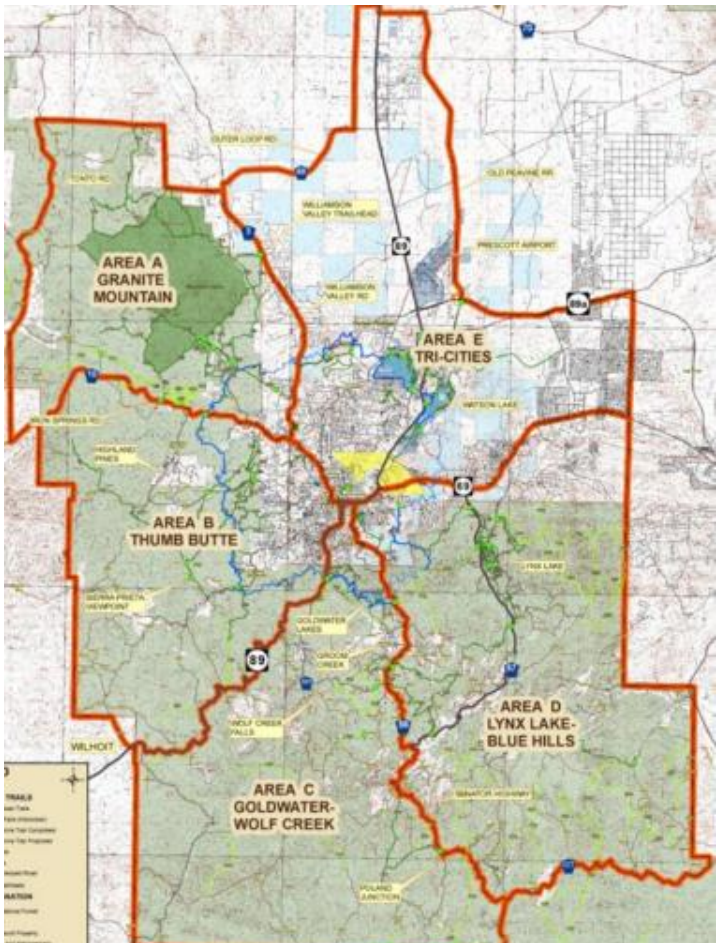


Figure 1. Vicinity map

Need for the Proposal

Starting in 2008, the Prescott National Forest (PNF) engaged individuals, local trail user groups, and various local governments in developing a recreation strategy for Central Arizona that focuses efforts on building and maintaining sustainable recreation infrastructure. The need for additional trails and trailheads was highlighted by those involved in this process, and community partners worked with the Forest Service to develop sustainable trail proposals for the greater Prescott area. In 2013, 2014, and 2015, meetings were held to gather input from all interested publics through the Greater Prescott Trails Planning (GPTP) process. This proposal is a direct result of that process and is considered part of the mid-term implementation projects.

The PNF must consider this proposal in relation to our overarching Land and Resource Management Plan, as this plan was developed in collaboration with the public to provide a framework for forest management over a 10-15 year period. This project fits with that plan in the following ways: Forestwide desired conditions for Recreation, Transportation, and Facilities include: minimizing resource impacts, especially to watershed integrity; providing a variety of settings with differing levels of challenge and seclusion; point to point trails that connect communities and interconnected loops of varying lengths; trails and trailheads meet the needs of the intended recreation use; trails meet the diverse needs of a growing population; conflicts between recreation uses are addressed; resource impacts are idenitified and mitigated; alternate

access is available where changes in land ownership have eliminated historic access (Reference: Land and Resource Management Plan for the Prescott National Forest, hereafter "Forest Plan", June 2015, DC-Rec 1-2). Within the Prescott Basin Management Area, desired conditions include: multiple recreational opportunities; support of community based and Prescott NF based recreation opportunities; balancing motorized and non-motorized recreation opportunities; providing trail systems with interconnecting loops, as well as trails that connect communities or other destinations; use of designated trails by visitors and citizens; and "unofficial" (unauthorized) trails are not evident. (Reference: Forest Plan, June 2015, DC-PB MA 1-3).

Forest Plan Objectives intended to move the forest toward providing sustainable recreation opportunities which fulfill desired conditions include: construct or improve facilities at 5 to 20 trailheads; protect, relocate, or rehabilitate 2-5 recreation areas or locations (including trails) that show evidence of resource damage; and implement 5-10 management actions on trails to meet desired conditions. (Forest Plan, June 2015, Obj-11, 16, and 17).

Sustainable recreation evaluates the social, economic, and environmental implications of a project, and favors proposals that create resiliency in these three core areas. This project fits within the Prescott National Forest's sustainable recreation goals by providing improved access and opportunities for trail users on the forest while addressing social, economic, and environmental factors. It is economically sustainable because we anticipate construction and maintenance to be completed primarily by volunteers and grant funding. Additionally, creating more access points and trail loop opportunities will enhance the draw to this community and facilitate potential event opportunities. Creation of a well-designed trail system makes this project environmentally sustainable by significantly reducing soil erosion and providing for more effective and efficient long-term management of trail use in the Prescott area while restoring the natural ecosystem. This project is socially sustainable as it is the culmination of a collaborative process developed and supported by diverse recreation user groups; is intended to reduce trail user conflicts by providing more opportunity and spreading out use across a larger, more connected trail system, thus improving the quality of life for local residents and other visitors.

Public Involvement and Tribal Consultation

The proposal was listed in the Schedule of Proposed Actions beginning in January 2018. The proposed action was provided to the public and other agencies for comment during scoping that began on January 19, 2018. The schedule of proposed actions is available on the Prescott NF website at http://www.fs.fed.us/sopa/forest-level.php?110309. Information and documents for this project may be viewed at http://www.fs.fed.us/nepa/nepa_project_exp.php?project=53205

The Bradshaw RD hosted an open meeting on February 5, 2018, to discuss the project and build on past GPTP efforts. Twenty-four responses were received during the scoping period for this project and they helped inform the development of the proposed action. Some comments and suggestions were incorporated into the project design features or mitigations. No comments led to the development of another alternative. No comments on the proposed action were received from Native American groups during the scoping period. All scoping comments are in the project record.

Proposed Action

The Greater Prescott Trails Plan Midterm Project #2 proposes to construct, reroute, and/or adopt 61 miles of motorized trails and obliterate/decommission 40 miles of system and unauthorized trails; construct 1.1 miles of new road and close one road seasonally; construct 2 new trailheads, decommission 1 trailhead, and improve 2 existing staging areas on the Bradshaw Ranger District. The Greater Prescott Trails Planning area on the Bradshaw Ranger District encompasses 205,554 acres of Forest Service land and has an existing 305 miles of motorized and non-motorized trails.

The primary purpose for action is to provide additional motorized trail opportunities, trail connections, reasonable access points, and reduce or limit resource damage and disturbance in the project area. Reducing or limiting resource damage on trails is accomplished by using sustainable design and construction methods. Generally this means designing sections of trail that follow the natural contour of the terrain and using reversals in grade (undulating the trail surface) for water drainage. This typically makes trail segments longer and more moderate for the user, significantly reduces erosion, and allows long-term maintenance costs to be reduced. This proposal also includes trails designed for a more advanced/technical trail experience that will locate trails on steeper grades that will require additional trail construction and maintenance techniques, such as rock armoring, to limit resource impacts.

The proposal for approximately 1.1 miles of new road is to connect Forest Road (FR) 64 and FR 9403Y crossing Groom Creek to avoid private land (.18 miles) and to reroute Board Creek Road (FR 54A) around private land (.9 miles). The reroute of this road is primarily to provide recreational access and will be done with the intent of keeping the route character similar while ensuring a sustainbale reroute. These road proposals are necessary and logical connections that were not needed decades ago when the forest completed its Travel Management planning, as access was not restricted across the private lands the way it is now. Additionally proposed is seasonal closure of FR 74 at its junction with FR 74A to mitigate the dead end which occurs when Wolf Creek Campground is closed for the winter months.

The trailhead proposals will provide increased and safer user access to the existing and proposed trail system while reducing negative impacts on natural resources. The new Sevenmile Gulch Trailhead (TH) will be a large area specifically designed for motorized trail users. It will accommodate approximately 10-20 medium sized trucks with trailers as well as having 10-20 single vehicle parking spaces. It is also intended that beyond the designed trailhead, on the administratively closed FR 9401Y, overflow parking could occur for permitted large events. The Whitehorse proposed trailhead is intended to be similar in size to that of Green Gulch TH in the Dewey area and would only be constructed with local community support and road easement issues resolved. The Glen Oaks TH is currently being used informally as a parking and camping area and this proposal would delineate a parking area to reduce soil erosion. Smith Ravine TH as it currently exists is in need of improvement to limit erosion and the work may include some enlargement.

This proposal is for 25.5 miles of trails designed for ATVs 50 inches and less and 36 miles of trails designed for motorcycles. All ATV designed trails would be considered multiuse and allow use by all other motorized and non-motorized users with vehicles under 50 inches wide. The proposed trails would provide critical connections between trail systems, allowing non-street legal motorized users long-distance routes around the city of Prescott. These routes would also provide long distance routes for other users seeking extended loop opportunities. When

combined with other existing and proposed trails in and adjacent to the Greater Prescott Trails Planning area, the resulting motorized trail system will consist of over 300 miles of motorized trails with various levels of difficulty.

The single track motorcycle trails in the Sevenmile Gulch area will be built and maintained primarily for motorcycles, but will allow other uses that are compatible. Compatibility or the need for use restrictions will be considered in this analysis.

Construction will be completed by volunteers, Forest Service personnel, and/or partner organizations. Construction methods could include hand tools or mechanized equipment to create an 18-36 inch wide trail tread for single track trails and 50 inches wide for the OHV motorized trails. Obliteration of old sections of unsustainable unauthorized trail and restoration of gullies on fall line trails will be achieved through covering the disturbed area with brush, rocks, and logs to prevent further erosion. New construction will follow the natural contour of the terrain and use reversals in grade. Some of the trails in the Sevenmile Gulch area will be routed over rock, and advanced trail armoring techniques will be used to stabilize these trails while still providing for challenging opportunities. These actions will allow for more natural hydrologic conditions. Signs indicating “restoration in progress” will be installed to ensure old trail segments are not used. It is expected that maintenance of proposed trails will be completed through a combination of volunteers, partners, grants, and Forest Service trail crews. Trail maintenance costs will range from $200-$2,000/mile depending on sustainability of design and brush component on the individual trails. Maintenance of newly designed trails vs. old poorly designed trails is expected to be significantly less and on average may be around $500/mile when averaging out the brushing needs. Details on the individual trail proposals and trailhead proposals are listed by area in the tables below (mileage is rounded to the nearest tenth).

Table 1. Proposed Trail Actions – Area A

NO ACTIONS ARE PLANNED IN AREA A

Table 2. Proposed Actions - Area B – New or Rerouted Trails

Trail No.	Existing	Name	Managed Uses	Trail Class	Description	Length (miles)
0260-Ext	No	East Copper	ATV <50 Inches	2	Extension of existing trail to provide additional trail opportunities	2.47
0769	No	Copper Basin	ATV <50 Inches	2	Provides non-street legal opportunity for access to Alto Pit and Smith Mesa Trail systems	13.04
					Total New or Rerouted Miles in Area B	15.51

Table 3. Proposed Trail Actions - Area C – Decommission (remove from system and obliterate)

Trail No.	Existing	Name	Designed Use	Trail Class	Description	Length (miles)
0065	EX - Existing	Kendall Camp	ATV - All Terrain Vehicle	2	Obliterate trail to mitigate erosion and wildlife habitat concerns	1.25
0306	EX - Existing	Elouise	Motorcycle	2	No longer in use and goes across private land, remove from system, no obliteration necessary	1.63
8000	UN - Unauthorized	Track 2	ATV - All Terrain Vehicle	3	Illegal trail in generally non-motorized area, obliterate	1.30
					Total Decommission Miles in Area C	4.18

Table 3. Area – C - New or Rerouted Trails

Trail No.	Existing	Name	Designed Use	Trail Class	Description	Length (miles)
0107-EXT	PL - Planned	Orofino	ATV - All Terrain Vehicle	2	Makes logical connection with existing trails and mitigates safety concern for non-street legal vehicles using HWY 89 to make connections	2.15
0274-RR	PL - Planned	Climax	Motorcycle	2	Reroute off private land	0.38

0284-RR	EX - Existing	Yankee Doodle	Motorcycle	2	Multiple small reroutes within 1/8 mile of existing tread to avoid crossing the fenceline to reduce conflicts with rangeland management	1.00
					Total New or Rerouted Miles in Area C	3.53

Table 4. Proposed Trail Actions - Area D – Outside Seven-mile Gulch - Decommission (remove from system and obliterate)

Trail No.	Existing	Name	Managed Uses	Trail Class	Description	Length (miles)
0042-DEC	EX - Existing	Prospectors	ATV - All Terrain Vehicle	2	Obliterate unsustaibale segment - new reroute to replace	0.55
0043-DEC	EX - Existing	Red Mountain	Motorcycle	2	Obliterate unsustaibale segment - new reroute to replace	0.10
0334-DEC	EX - Existing	Puke Hill	ATV - All Terrain Vehicle	2	Obliterate unsustaibale segment - new reroute of tr #9405 to replace	0.78
9263-DEC	EX - Existing	Salida Connection	ATV - All Terrain Vehicle	2	Obliterate unsustaibale segment - new reroute to replace	0.18
9405-DEC	EX - Existing	Nemo Spring	ATV - All Terrain Vehicle	2	Obliterate 2 sections of trail – replace with new reroutes to increase trail sustainability & reduce difficulty.	2.37
9434-DEC	EX - Existing	Little Wolf	Motorcycle	2	Decommission segement from Grapvine to FR103, the rest of the trail to the west remains open	1.65
					Area D outside 7mile Gulch - Decommission Miles	**5.63**

Table 5. Proposed Trail Actions - Area D – Outside Seven-mile Gulch - New or Rerouted Trails

Trail No.	Existing	Name	Managed Uses	Trail Class	Description	**Length (miles)**
0042-RR	PL - Planned	Prospectors	ATV - All Terrain Vehicle	2	reroute to address erosion issues	0.43
0043-RR	PL - Planned	Red Mountain	Motorcycle	2	reroute to address erosion issues	0.30

0773	PL - Planned	Green Gulch	Motorcycle	2	New trail to provide additional single track motorized opportunities, will be moderate to difficult experience. Great views and position	4.79
0775	UN - Unauthorized	Single Fun	Motorcycle	1	Existing old motorcycle trail present for decades, provides unique challenge, represent Trail Class 1 experience.	0.52
9263-RR	PL - Planned	Salida Connection	ATV - All Terrain Vehicle	2	Reroute to mitigate erosion issues	0.26
9405-RR	PL - Planned	Nemo Spring	ATV - All Terrain Vehicle	2	3 reroutes to fix erosion and provide easier user experience. Will provide moderate difficulty trail connection from Green Gulch TH to Sevenmile Gulch	4.80
0763	PL - Planned	Deer Lick	Motorcycle	2	Addition from 5/9/18 public meeting	3.48
					Total New or Rerouted trails in Area D outside of 7mile	**14.59**

Table 6. Proposed Trail Actions – Area D – Seven Mile Gulch- Decommission (remove from system and obliterate)

Trail No.	Existing	Name	Managed Uses	Trail Class	Description	**Length (miles)**
9854	EX - Existing	Seven Mile Gulch	Pack and Saddle	2	Convert this short segment to Non-Motorized	0.17
0299	EX - Existing	Watershed	ATV - All Terrain Vehicle		Obliterate - new reroute to replace	0.25
0774	UN - Unauthorized	7 Mile Moto Loop	Motorcycle		Numerous segments of duplicate, unnecessary, or unsustainable trail	11.05
Trail No.	Existing	Name	Managed Uses	Trail Class	Description	**Length (miles)**
0780	UN - Unauthorized	Waterfall Canyon	Motorcycle		Primarily within Streamside Management Zone (SMZ)	0.71
0781	UN - Unauthorized	Enduro	Motorcycle		Primarily within Streamside Management Zone (SMZ)	1.08
0782	UN - Unauthorized	Spruce Mtn Ridge	Motorcycle		Unsustainable on private, wildlife habitat issues	0.87

0783	UN - Unauthorized	Hidden Canyon	Motorcycle		Within Streamside Management Zone, unsustainable grades, wildlife habitat issues	1.28
0785	UN - Unauthorized	Old Miner's	Motorcycle		Duplicate not needed, some fallline sections	1.22
0786	UN - Unauthorized	Smith Ravine Loop	Motorcycle		Unnecessary for system, some unsustainable segments	0.53
0787	UN - Unauthorized	Bigelow Canyon	Motorcycle		Unsustainable grades	1.53
0788	UN - Unauthorized	Bigelow Peak	Motorcycle		Partially within Streamside Management Zone, unsustainable sections	2.43
0789	UN - Unauthorized	C.M.T.	Motorcycle		Not needed for effective system	1.18
0790	UN - Unauthorized	7 Mile Loop Option	Motorcycle		Steep unsustainable slopes and in streamside management zone in many segements causing bank destabilization	1.13
0792	UN - Unauthorized	Benjamin Gulch	Motorcycle		Numerous segments in streamside management zone	1.85
0793	UN - Unauthorized	No Name	Motorcycle		Not needed - Very Steep old jeep trail	0.79
0795	UN - Unauthorized	Rattlesnake Point			Not needed for system, numerous eroded segments	0.37
0796	UN - Unauthorized	Old Road	Motorcycle		Trail to old road in Streamside Management Zone.	0.69
0797	UN - Unauthorized	Scratchy Plastics	ATV - All Terrain Vehicle		Unsustainable tr replaced with sustainable reroute	1.76
9854	EX - Existing	Seven Mile Gulch	Motorcycle		Within Streamside Management Zone, unsustainable grades, wildlife habitat issues	1.28
					Total Decommission miles in 7 Mile Gulch	**31.00**

Table 7. Proposed Trail Actions – Area D – Seven Mile Gulch- New or Rerouted Trails

Trail No.	Existing	Name	Managed Uses	Trail Class	Description	**Length (miles)**
0299	PL - Planned	Watershed	ATV - All Terrain Vehicle	3	Reroute off private land	0.31
0745	AU - Authorized	Hoot Owl	ATV - All Terrain Vehicle	3	ATV trail authorized in GPTP #1, integral to planning process, 8.5 miles	

0771	PL - Planned	Alligator	Motorcycle	2	New trail to make system larger and take advantage of connection to watershed trail	2.10
0776	UN - Unauthorized	Critical Condition	Motorcycle	2	Creates critical connections between numerous loops, will need drainage and small realignments	1.70
0776	PL - Planned	Critical Condition	Motorcycle	2	Creates connnection with Bigelow Peak TR, reduces need for outer loop that goes closer to smith ravine	0.35
0777	PL - Planned	Over The Top	Motorcycle	2	Trail provides access to watershed trail #299 which will enhance the trail system by adding significant miles for additional opportunities	1.54
0778	UN - Unauthorized	Sawmill Gulch	Motorcycle	2	Provides additional connection to provide additional loop opportunities	0.86
0779	PL - Planned	Bigelow Summit	Motorcycle	1	New trail to provide access to the peak, will be very technical trail, difficult rock slabs	0.38
0784	UN - Unauthorized	Ruby Canyon	Motorcycle	2	Decades old trail, sustainable, erosion is minimal and manageable, some old rock walls along trail, may have archeological importance	0.55
0785	UN - Unauthorized	Old Miner's	Motorcycle	2	Needs small realignments, drainage, and armoring to be sustainable	1.06
0785	PL - Planned	Old Miner's	Motorcycle	2	Provide loop and avoid wildlife habitat	0.38
0788	PL - Planned	Bigelow Peak	Motorcycle	2	Proposed new trail to provide views and moderate to difficult trail experience	1.70
0788	UN - Unauthorized	Bigelow Peak	Motorcycle	2	Needs drainage to be sustainable	0.47
0791	PL - Planned	Rattlesnake	Motorcycle	2	Needed connection due to TH location change, will be managed for mutliple users and provide logical loop opportunities for non-motorized Ranch, Homestead, and Sevenmile Gulch Trails	0.61
Trail No.	Existing	Name	Managed Uses	Trail Class	Description	**Length (miles)**
0792	UN - Unauthorized	Benjamin Gulch	Motorcycle	2	Provides critical connection into the middle of the trail system, needs drainage to be sustainable, exists on sustainable old road bench in streamside management zone	1.15
0792	PL - Planned	Benjamin Gulch	Motorcycle	2	Planned reroutes to remove trail from streamside management zone	1.60

0794	UN - Unauthorized	Lyon Canyon	Motorcycle	2	Trail has grades suitable for a maintainable dirtbike trail, provided some small reroutes are implemented.	2.81
0797	UN - Unauthorized	Scratchy Plastics	Motorcycle	2	Basic drainage and tread maninteance needed for sustainability	0.82
0797	PL - Planned	Scratchy Plastics	Motorcycle	2	Sketch with sustainable grades	1.15
0798	UN - Unauthorized	KTM Loop	Motorcycle	3	Trail is generally sustainable, needs small reroutes out of Streamside Management Zones and drainge installed to mitigate issues. Trail provides beginner user experience	4.90
0799	PL - Planned	Jerry	Motorcycle	3	Easy trail and connector providing additional loop opportunities with new TH location	1.45
9854	PL - Planned	Seven Mile Gulch	ATV - All Terrain Vehicle	2	Reroute of existing 9854 trail- sketch with sustainable grades	2.01
					Total new miles in 7 Mile Gulch	27.91

Table 8. Proposed Trailhead Action – Area D

Name	Type	Existing	Size	Facilities	Description
Seven Mile Gulch	Multi-use Motorized	Yes	1 acre	no	Decomission
White Horse	Multi-use Motorized	No	Less than 1 acre	maybe	Contigent on community and road access
Glen Oaks	Multi-use Motorized	Yes	Less than 1 acre	no	Defined parking area with kiosk, no other development
Smith Ravine	Multiuse Motorized	Yes	1 acre	no	Improvement of existing facilities
Gates Tank Road	Multi-use Motorized	No	1-2 acres	yes	Plan for large TH with many facilities

Maps of all trail proposals and trailhead proposals are depicted on the overview and area maps listed below. Maps may be viewed at http://www.fs.usda.gov/project/?project=48048. These maps reflect only general trail locations because GPS field verification is incomplete. These maps are meant to facilitate analysis of potential resource concerns, assist with issue identification, and to reflect the intended recreation experience. Potential reroutes of many unauthorized trails are reflected in these maps.

1. GPTP Overview
2. Area A
3. Area B
4. Area C
5. Area D
6. Seven Mile Gulch

No Action

Under the No Action Alternative, the current trail system would remain and no improvements to trails or trailheads would occur. The Forest Service would continue to maintain the current trail system and would obliterate unauthorized trails as feasible. Trailheads would remain as they are, with demand exceeding capacity.

Environmental Impacts

This section summarizes the potential impacts of the proposed action for each associated resource. Resources that were not associated, and therefore not further analyzed, include Vegetation and Fuels Management, Lands, and Special Uses.

Trails and Recreation

This section summarizes the potential impacts of the proposed action on recreational trail opportunities within the Greater Prescott Trails Planning Mid-term Project analysis area. The full analysis can be found in the *Greater Prescott Trails Plan Mid-term 2 Project Trails Specialist Report.*

Background

Trails

The motorized system trails currently available within the Prescott Basin fail to provide interconnecting loops in a variety of settings or with varying levels of challenge in line with the needs and demands of motorized recreationists as understood from numerous Greater Prescott Trails Planning meetings. The National Off-Highway Vehicle Conservation Council suggests advanced (motorized) trail riders can use 100 miles of trail/day (Crimmins 2006). Other sources recommend 11 miles/hour for motorcyclists. Quads and UTV users generally require fewer miles/hour.

Unauthorized trails within the basin are contributing to resource degradation. Meeting the need for more diverse trail opportunities and interconnecting loops is likely to gain support of trail users groups and individuals. Such support is likely facilitate closing unauthorized trails and decrease the development of additional unauthorized trails. Reducing unauthorized trails is likely to reduce the impacts to other forest resources.

Settings within the Greater Prescott area range from highly developed urban areas (ie. Sevenmile Gulch) to remote primitive type settings, e.g., Yankee Doodle Trail 284 in the Blind Indian Creek Inventoried Roadless Area.

The proposed Sevenmile Gulch Trail System between Walker Road and Senator Hwy contains approximately 42 miles of motorized trail. When combined with the proposed trails in the Blue Hills Trail System on the East side of Walker Rd the motorized trail system is over 80 miles, providing enough mileage and diversity of difficulty to satisfy the demand for a variety of trail experiences. This plan provides primarily more difficult/intermediate trails and a limited number of beginner trails as well as a limited number of most difficult/advanced trails. There are numerous advanced trail opportunities in the Bradshaw Mountains south of the Prescott area and these will be retained.

Connecting the communities of Dewey-Humboldt, Prescott, Prescott Valley, Walker, Groom Creek, Crown King, Wilhoit, and Skull Valley by motorized trails and level 2 forest roads would result in a ¾ circle of routes around the Greater Prescott urban area. Such routes would connect motorized trail systems in the Blue Hills, Sevenmile Gulch, Central Bradshaws, Alto Pit OHV Area, and on to Smith Mesa and Sheridan Mountain in the Chino

Valley Ranger District. In all, there would be access to over 300 miles of motorized trails, providing a variety of difficulty levels and loop opportunities.

Changes in land ownership has cut off legal access to traditional routes involving Marapai FR 64 and Board Creek FR 54A, thereby limiting motorized access in these areas to street legal vehicles and travel on heavily used county roads.

Facilities supporting access for motorized users is limited.

Recreation Opportunity Spectrum

The Recreation Opportunity Spectrum (ROS) is a classification system that identifies a continuum of settings, activities, and recreation experiences. It is used to inventory and classify large areas based on national criteria involving physical, social, and managerial attributes, mostly classifying recreation opportunities as they exist. (Forest Plan, Chapter 1 pg. 11- ROS)

Activities proposed within this project area fall primarily within Roaded Natural (RN) designation. Roaded Natural areas offer about equal opportunities for isolated experiences and opportunities to interact with other groups with generally natural landscapes and subtle managerial controls. The proposed White Spar Trailhead falls within Rural (R) designation. Rural ROS are areas where the natural environment is substantially modified and interactions with other visitors prevail. Some proposed trails enter Semi-primitive Non-Motorized (SPNM) or Semi-primitive Motorized (SPM), i.e., 709, 743 and 737. Both SPNM and SPM offer some isolation from human-made sights, sounds, and management controls, a predominately unmodified environment, and few visitors.

Community Landscape Vision – Prescott/Prescott Valley/Chino Valley

The community vision for recreation can be summarized as a thoughtful balance between the need for access; the protection of forest resources and aesthetics; and protection of forest health while promoting a robust economy; meaningful and sustainable trails, trailheads, and designated campsites; and low maintenance facilities built collaboratively among citizens and agencies (Forest Plan, Appendix C)

Existing Conditions

Trails and Trailheads

Motorized users tend to need more miles of trail for a satisfactory experience. There are approximately 40 miles of unauthorized trails identified within the project area which receive regular and continuing use. These trails were not planned or designed with natural and cultural resources in mind. This system of unauthorized trails contributes to soil erosion, wildlife disturbance, and impacts to cultural sites. Efforts to manage or minimize the impacts of these unauthorized trails takes away from implementing and maintaining designated system trails. Many of the non-system trails have been in existence in some form or another for many years.

Demand for parking currently exceeds designed and constructed parking areas for motorized trail access within the planning area. OHV parking is limited at many trailheads due to parking lot size, space requirements for vehicles pulling trailers and crowding. The lack of

adequate parking leads to inappropriate parking along roadways, creating resource damage and safety issues with traffic.

Environmental Consequences

The addition of 61 new miles of motorized system trails will dramatically increase the opportunities for satisfying motorized users in the Prescott area, in a variety of settings with varying levels of difficulty. Trail design will be more sustainable with less impact on other resources. With support of trail user groups and individuals, the trails program can to more easily close unauthorized trails and facilitate a well-managed trail system. New illegal/unauthorized trails in the planning area in the future will be signed as closed and obliterated using volunteers and forest employees. The need for additional unauthorized trails will be dramatically decreased.

Closing the seven-mile gulch trailhead increases long term social and environmental sustainability by removing this facility from the streamside management zone (SMZ), flood plain, and removing it from a location which would be severly impacted if there were a catastrophic fire in the associated watershed. The replacement trailhead along Gates Tank Road offers the opportunity to meet current demand with potential to expand as needed, in an area that is resistant to and from resource impacts.

There is no impact to wilderness or recommended wilderness. The proposed re-routes of the Yanakee Doodle Trail #284 is expected to benefit the Blind Indian Creek Inventoried Roadless Area by addressing erosion issues and limiting range fence crossings.

No Action

With no trail actions, motorized trail additions or re-routes in the Prescott area would be limited to those covered under previous trail decisions. The designated trail system would continue to fall short of motorized trail user demands. Support from trail user groups would likely decrease. Demand for unauthorized trails would continue and potentially increase. Obliteration of unauthorized trails would be challenging. Trail heads would remain inadequate for the demands. The existing system would continue to require regular maintenance.

Scenery Management

This section summarizes the potential impacts of the proposed action on visual quality within the Greater Prescott Trails Planning Mid-term Project analysis area. The full analysis can be found in the *Greater Prescott Trails Plan Mid-term Project Scenery Specialist Report.*

Background

Scenery Management and Scenic Integrity Objective

The Scenery Management System (SMS) provides a systematic approach for determining the relative value and importance of scenery on National Forest System lands. It analyzes a landscape's attractiveness, visibility, intactness, and value to the public to determine the scenic integrity objective (SIO) across the forest. The trails and trailheads proposed in this project fall within High and Moderate categories. On the high end, natural landscapes dominate. At the moderate level, human activities are subordinate to the natural landscape. Existing Scenic Integrity (ESI) is a measure of the intactness of the landscape character. The higher the number of disruptions, the lower the ESI rating.

Visibility

Landscape visibility is an important aspect of the SIO rating. The Forest road and trail system and use areas have been ranked and divided up into 3 categories, or Concern Levels, measuring the importance the public places on landscapes as viewed from these routes or areas. The lower the number the higher the concern. Views from all concern level 1 and 2 roads have been mapped and figured into the SIO ranking.

Desired conditions include natural landscapes unaltered by human activity on the majority of the forest (Forest Plan, DC-Scenic-1). Improvements (including permanent structures), vegetation manipulation, and ground disturbing activities and/or construction are designed to complement the character of the surrounding natural landscape (Forest Plan Guide-Scenic-1 and Guide-Scenic-2).

Landscape Character

Landscape character creates a "sense of place," and describes the image of an area. A combination of the physical, biological, and cultural attributes are what make each landscape identifiable or unique.

Existing Conditions

The dominant landform in this project area is rolling hills and mountains with the remainder plains and mesas. Major vegetation types include chaparral, ponderosa pine, pine-oak mix, PJ woodlands, oak woodland, and mixed evergreen deciduous shrub. The landscape has been influenced by mining activities, development of utility corridors, past fire suppression and fuel reduction activities.

The trails and trailheads proposed in this project fall within the High or Moderate categories of the scenic integrity objective (SIOs).

Environmental Consequences

A trail, as a human activity, is fairly unobtrusive compared to say a building. Typically, the steeper the terrain, the greater the visual impact from disturbance and cut/fill slopes. The type of vegetation, density of vegetation, canopy presence, and presence of shrubs plays into visibility and the distance from which trails can be seen.

For an SIO of Moderate, where "human activities must remain visually subordinate", proposed trails are compatible. The trails all have a tread width of 50" or less and generally follow the contours so there is little grading.

Decommissioning of trails is always a good thing for the scenic resource as with time the land should return to a completely natural state. About half of the decommissioned trails are in SIO of High and the other half in SIO of Moderate.

Analysis of Proposed Trails

All proposed trails in the project area were analyzed and most will have minimal impact on the scenic resource. The potential effects of proposed trails in areas of High SIO and/or in close proximity to Concern Level 1 roads are described below.

Area B

TR East Copper 0260-EXT is adjacent to Hwy 89 with approximately 70% in SIO of High. Portions of the proposed trail which are uphill and within 50' to 250' of the road are highly likely to be seen. The major vegetation type of mixed deciduous-evergreen shrub will provide minimal screening. The northern part of the trail, where the new trail connects to the existing, will be most visible given proximity to the road and construction in areas of 40% or greater slope, requiring a larger area of disturbance.

Area C

No concerns with proposed trails.

Area D

Watershed TR 0299 is a .31 mile reroute to move part of the existing trail off of private land. The old portion to be decommissioned and the new section both end at Spruce Mountain Rd which is a Concern Level 1 Rd. The area has a High SIO. The vegetation type for the new trail is ponderosa pine, while the decommissioned section is in lower evergreen tree mix. The visibility will be slightly more in the ponderosa pine.

The first 1500' of the trail parallels the top of the proposed Deer Lick TR 0762 for motorcycles. The trails are about 100' apart with some separation in elevation. There would be less visual impact from along Spruce Mountain Rd if this section of the trails could be combined or if Deer Lick Trail ended 500' lower down on the road, if topography would allow.

Deer Lick TR 0762 is a proposed 3.48 mile trail and approximately half of the trail is in High SIO. The trail begins and ends at Concern Level 1 roads. However, with the topography and

the ponderosa pine vegetation, the trail should not be very visible from either Senator Highway or Spruce Mountain Rd.

Area D-7mile

KTM Loop, TR9854, is the closest trail in this area to Walker Road which is a major Concern Level 1 Road due to a considerable amount of recreation traffic. At the closest point, it is about 430' from the road. This trail and the Hoot Owl Trail (approved in GPTP1) are close to Walker Road for about 1/3 of a mile stretch. Field investigation of this area confirmed that, due to the terrain which rises gradually and has several small knolls close to the road, very little of the trails should be visible. That, in addition to the shrub vegetation, will afford only very brief glimpses of the trail, if any, especially since vehicles area travelling at 50 MPH.

The rest of the proposed trails in the 7-mile area along Concern Level 1 Walker Rd are far enough away from Walker Rd and in the Ponderosa Pine and mixed deciduous-evergreen shrub so they should not be visible.

Road Actions

The road actions proposed in this project are quite small and should have little impact on the scenic resource.

Board Creek is the largest at .9 miles. It is in SIO of Moderate but in a relatively flat area and in vegetation type of ponderosa pine and mixed deciduous evergreen which will make it less visible. It is also not close to any Concern Level 1 roads.

Marapai is in SIO of High but is very short (.19 miles) and there is already a user created road so any damage to the scenic resource is already done. It crosses a drainage in deciduous evergreen tree and ponderosa pine vegetation type and is not near any Concern Level 1 roads.

Nemo Springs is an existing road being added to the system. As such the area is already disturbed. It has an SIO of Moderate, is .7 miles and not near any Concern Level 1 roads. Vegetation is mixed evergreen deciduous shrub which may help screen.

Payoff is a seasonal closure which will not affect the scenic quality of the area since it is an existing road.

Table 9. Miles of Proposed Project Work by SIO

	Moderate SIO	High SIO
Proposed Trails	42	16.9
Proposed Roads*	0	1.8
Decommissioned Trails	23.5	20.7

Trailheads

Trailheads have a larger impact on scenic quality than trails due to their size. While clearings are naturally occurring in the forest, gravel surfacing and parked vehicles are an intrusion into the natural landscape. The vehicles have the largest impact.

Of the 4 proposed trailheads only 2 are in a new natural area, (Sevenmile Gulch and White Horse). The others are existing so there is already a visual impact and it is proposed to just define them with boulders.

Sevenmile Gulch trailhead is in an area of entirely SIO of High, because there is a buffer along the Concern Level 1, Walker Road. However, there is a dense screen of vegetation along the road, so the proposed area is not all visible. Except for the 50' break at the gate, this vegetation extends 200' from the road before opening up into a large, level, open, grass-covered area.

The proposed trailhead is shown to be about 500' west of Walker Road. Because of the openness and flat terrain it will be very visible from the access road into it and from the trails that begin or end at it. Depending on the final location, the trailhead could be up against the tree line to the north and possibly incorporate some of the major trees along the edge or into islands within the parking area.

A small stream shows on the SMZ layer but there should be adequate room for construction of the trailhead to the north of this boundary.

White Horse is in an SIO of Moderate. It is at the beginning of existing TR 354 White Horse Tank which is a concern Level 1 Trail. Vegetation type is mixed deciduous evergreen shrub. It is a relatively flat area and just over the Forest boundary (about 200'). Access is through a small subdivision and within about 600' of a house.

Smith Ravine is in SIO of High also due to proximity to Walker Road. It is located further south on Walker, outside of the Lynx Recreation are boundary. It is right off the edge of the road with 2 access points and 10' wide buffer of trees and shrubs between. Currently it is reasonably natural appearing except when vehicles are parked there. It is in ponderosa pine vegetation and at the bottom of a slope so there is not a lot of room for expansion but boulders and a sign would could improve the function while doing little to change the scenic quality.

Glen Oaks (Board Creek) is in SIO of High since it is along Highway 89, a Concern Level 1 road. The vegetation type is mixed evergreen deciduous shrub. There is existing use that needs to be contained to prevent it from expanding which would have a greater impact visually. Depending on the exact location of the final defined area, it could be very visible to a person on 89 heading both north and south. The trailhead is shown on a curve with a straight away leading to it from both directions which means a driver may be able to see it for some distance. In addition, the road slopes down to that curve from both north and southbound which increases the chance that it will be visible for a longer period of time.

Careful consideration needs to be taken concerning this trailhead in terms of size and exact location. Some mitigation measures may be necessary to screen the visual impact and still meet the rating of High SIO.

No Action

With no trail and trailhead construction, there would not be any impacts from disturbance or vegetation removal. Although some unauthorized routes might not be decommissioned un the No Action alternative, it would have little to no impact on visual resources.

Cumulative Effects

Many previous human activities in the project area have resulted in changes to visual characteristics, including buildings and roads, powerlines, and mines. These changes are now a part of the current conditions and have resulted in the current SIO categories. Future activities will likely include some vegetation management (thinning, prescribed fire) and, on private lands, additional construction. Because the impacts from this proposal on visual resources are relatively minor, they are not expected to contribute to any downgrading of visual quality.

Soils and Hydrology

Affected Environment

Watershed effects were evaluated and presented for each 6th level watershed involved within the project area. Watersheds were considered to be associated with the GPTP Project if any portion of their land base was located in areas proposed for ground disturbing activities. The project area lies within portions of ten 6th field HUC watersheds, listed in Table 8 and displayed in Figure 2.

Table 10. Sixth field HUC watersheds associated with the GPTP

6th Field HUC Watershed (HUC Code)	6th Field HUC Total Acres
Big Bug Creek (150701020403)	38,326
Buzzard Roost Wash-Upper Hassayampa River (150701030102)	17,450
Chaparral Gulch-Agua Fria River (150701020206)	37,915
Crooks Canyon (150701030103)	11,978
Groom Creek-Upper Hassayampa River (150701030101)	22,933
Lower Skull Valley Wash (150302030108)	37,985
Lynx Creek (150701020205)	26,682
Upper Granite Creek-Watson Lake (150602020102)	28,674
Upper Skull Valley Wash (150302030103)	22,135
Wolf Creek (150701020302)	12,576

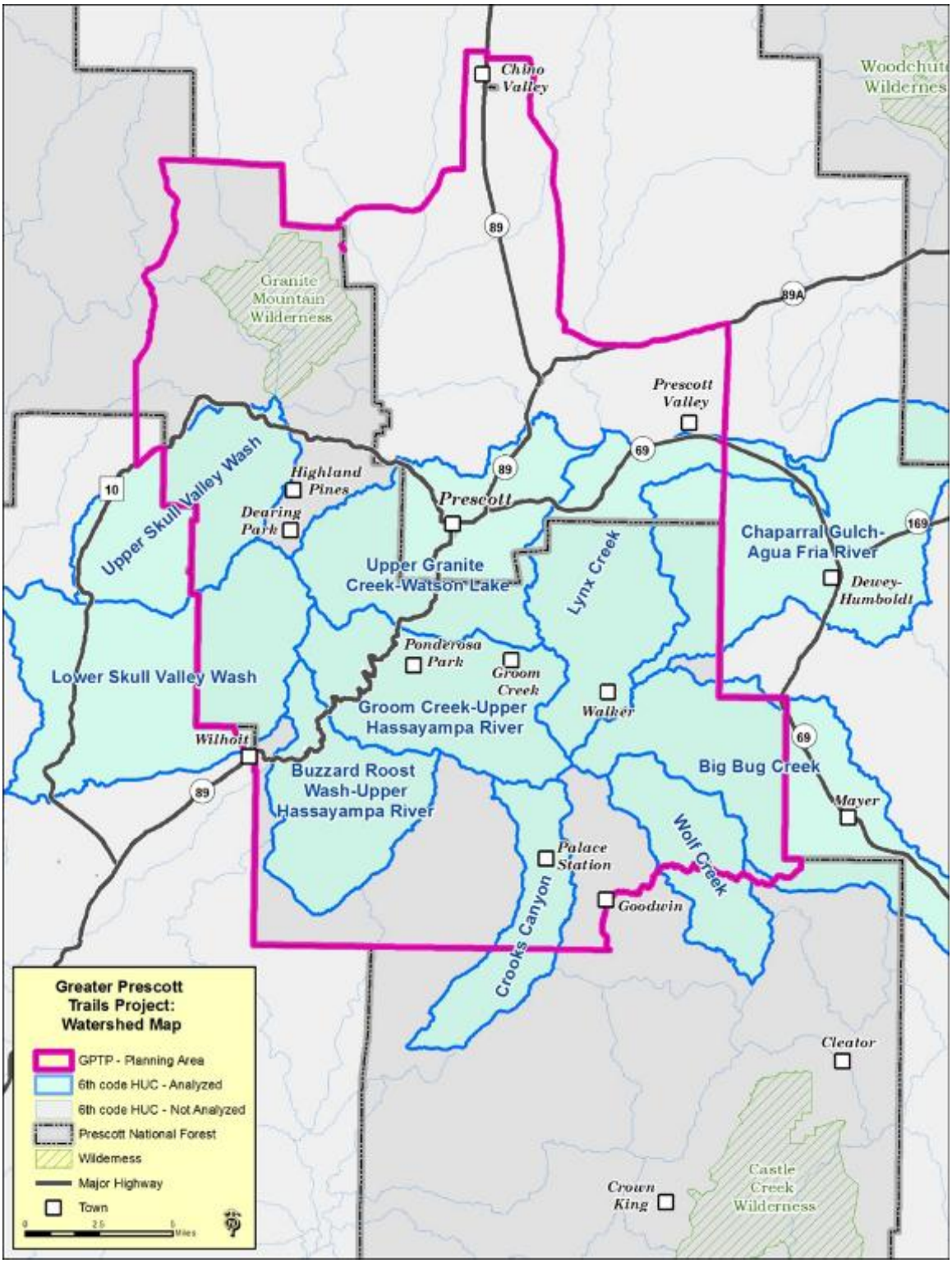


Figure 2. Watersheds associated with the GPTP Project

Watershed Condition

Watershed condition assessment is the process of describing watershed condition in terms of three discrete classes that reflect the level of watershed health. Primary emphasis is placed on indicators that directly or indirectly impact soil and hydrologic functions and riparian and aquatic ecosystems.

Forest Service Manual 2521.1 directs forests to establish watershed condition and assign a designated Watershed Condition Class rating. In 2011, the Forest used the watershed classification and assessment tracking (WCAT) protocol (USDA Forest Service 2011) to determine the health of its 6th field HUCs. Sixth field HUCs were assessed because the Forest Service National Watershed Condition Team, set up in 2007, determined that in order to demonstrate improvement in condition class, activities must be tracked at the smallest feasible watershed unit, the 6th-level hydrologic unit (typically 10,000 to 40,000 acres in size).

The Watershed Condition Classes (Table 9) are determined through a process where a series of watershed attributes (aquatic biota, riparian, water quality, water quantity, aquatic habitat, road and trail condition, forest cover, forest health, invasive weed conditions, range health, and fire effects/fire regime) are rated and averaged for each indicator of watershed health. The results are then compiled for watershed process indicators and then a Watershed Condition Class is determined by adding together weighted averages (Table 9). Please see the *Greater Prescott Trails Plan Mid-term 2 Project Hydrology and Soils Specialist Report* for the complete dataset for project area watersheds.

Table 11. Summary of Watershed Condition classes and definitions

Watershed Condition Class (WCC)	Watershed Condition Class Definition
WCC I (Functioning properly - good)	Watersheds exhibit high geomorphic, hydrologic and biotic integrity relative to their natural potential condition. The drainage network is generally stable. Physical, chemical, and biologic conditions suggest that soil, aquatic, and riparian systems are predominantly functional in terms of supporting beneficial uses.
WCC II (Functioning at risk - fair)	Watersheds exhibit moderate geomorphic, hydrologic, and biotic integrity relative to their natural potential condition. Portions of the drainage network may be unstable. Physical, chemical, and biologic conditions suggest that soil, aquatic, and riparian systems are at risk in being able to support beneficial uses.
WCC III (Impaired function - poor)	Watersheds exhibit low geomorphic, hydrologic, and biotic integrity relative to their natural potential condition. A majority of the drainage network may be unstable physical, chemical, and biologic conditions suggest that soil, aquatic, and riparian systems do not support beneficial uses.

Results from the exercise indicated that all project area analysis watersheds are “functioning at risk” except the Upper Granite Creek-Watson Lake watershed, which is “functioning properly” and the Big Bug and Wolf Creek watersheds which show impaired function due mainly to the 2017 Goodwin Fire.

Water Quality

Every two years, Arizona Department of Environmental Quality (ADEQ) is required by the Federal Clean Water Act to conduct a comprehensive analysis of water quality data associated with Arizona's surface waters to determine whether State surface water quality standards are being met and designated uses are being supported.

The following stream segments and lakes within project area watersheds are listed on Arizona's 2016 water quality assessment report (2016 ADEQ) for not meeting beneficial uses. A summary for each segment listed below is available in the *Greater Prescott Trails Planning Mid-term 2 Project Hydrology and Soils Specialist Report*.

- Granite Creek from headwaters to Willow Creek for low dissolved oxygen, high nitrogen, and high pH.
- Miller Creek from its headwaters to Granite Creek for full body contact due to E. Coli
- Watson Lake for high nitrogen, low dissolved oxygen, and high pH.
- Hassayampa River from headwaters to Copper Creek including Cash Mine Creek for cadmium, copper, and zinc and for low PH.

Stream Channels

For the purposes of this analysis, perennial streams are defined as permanent flowing drainage features and intermittent streams are defined as any nonpermanent flowing drainage feature having a definable channel and evidence of annual scour or deposition. Streams within the project area are as varied as the geographic landscape. Streams encompass steep entrenched headwater channels as well as wide alluvial intermittent washes like that found in the Hassayampa River valley.

The Groom Creek-Upper Hassayampa River 6th level watershed has the most total perennial stream miles in the project area at 8.6 miles (associated with the Hassayampa River) while the Chaparral Gulch-Agua Fria River 6th level watershed has the most intermittent stream channels at 205.0 miles.

Riparian Areas

Riparian systems represent the interface between aquatic and terrestrial systems. They enhance water quality, attenuate floods, provide continuous large wood to stream systems, and reduce erosion and sediment transport to name a few. Riparian areas generally consist of intermittent or perennial streams, ponds, lakes, wetlands and adjacent lands with soils, vegetation, and landform indicative of high soil moisture or frequent flooding.

Riparian habitats are among the most critical elements of biodiversity on the Prescott National Forest. In Arizona and New Mexico, 80 percent of all vertebrate species use riparian areas for at least half their life cycles, and more than half of these are totally dependent on riparian areas (Chaney et al. 1990). According to the Arizona Riparian Council, 60 to 70

percent of the State's wildlife species depend on riparian areas to sustain their populations, even though riparian habitats occupy less than half a percent of the land area (Arizona Riparian Council 1995). Likewise, aquatic and fish productivity are directly related to a properly functioning and healthy riparian habitat.

In 2011, the Regional Riparian Mapping Project protocol was used to map all riparian areas within the Prescott National Forest. The protocol, dated December 9, 2010, can be located within the project record. From that dataset, it was determined that there are approximately 2,571 acres of riparian within project area watersheds.

Although no formal riparian surveys have been conducted within the project area, the Watershed Condition Class (WCC) rating exercise indicates that riparian area conditions are considered "poor" in the Buzzard Roost Wash-Upper Hassayampa River and Lower Skull Valley Wash watersheds, "fair" in three of the project analysis watersheds, and "good" in five of the project area analysis watersheds..

The Buzzard Roost Wash-Upper Hassayampa River 6th level watershed has the most total riparian acres on PNF lands at 523 acres, while the Chaparral Gulch-Agua Fria River watershed has the least total acres at 0.

Soils

Sensitive soils were defined for the project area and form the basis for the soils analysis. Sensitive soils for the GPTP Project include soils on slopes ranging between 20-50% with parent materials of granite, metamorphic, or granite/gneiss on distinctly hilly or mountainous landscapes. Erosion hazards for these soils are primarily severe, soil strength high and plasticity slight to moderate (Table 10).

Table 12. Sensitive soils within the GPTP project area

TEUI	Parent Material	Average Slope %	Landform	Erosion Hazard	Soil Strength	Plasticity
476	Granite	20	hills/convex	Moderate	High	moderate
530	Granite	37	hills/mountain	Severe	High	slight
540	Metamorphic	50	hills/mountain	Severe	High	slight
545	granite/gneis	35	hills/mountain	Severe	High	slight
554	Metamorphic	30	hills/mountain	Severe	High	moderate
555	Metamorphic	45	hills/mountain	Severe	High	slight

For our analysis, we determined the miles of existing roads, trails, and trailheads located on these sensitive soils by 6th HUC project area watersheds. See *the Greater Prescott Trails Plan Mid-term 2 Project Hydrology and Soils Specialist Report* for this data We will track the net change in trailheads and miles of trails and roads located on sensitive soils after implementation of the proposed action.

The WCATT data for the ten project area watersheds shows that soil conditions are poor in two watersheds, fair in six watersheds, and good in two watersheds (see *the Greater Prescott Trails Plan Mid-term 2 Project Hydrology and Soils Specialist Report* for further discussion). Soils have been impacted in the past by fire suppression and wildfire, roads, trails, vegetation management, grazing, and recreation to name a few.

Environmental Consequences

Direct and Indirect Effects – No Action

Under the no-action alternative, none of the proposed trail, road, or trailhead construction and trail and trailhead decommissioning would occur.

We assume the impacts to water quality, riparian areas, and sensitive soils would continue from user created trail impacts. This is provided that no natural disturbance (fire, flood, etc.) occurs through the 10 year planning cycle. As no additional ground-disturbing activities would occur, there would be no new, and additional, direct and indirect activities (both short and long term) above current conditions.

Proposed Action

This alternative would approve approximately 62 miles of new trails, 3 miles of new roads, 4 new or upgraded trailheads, and the decommissioning of approximately 41 miles of authorized and unauthorized trails and one trailhead across ten 6th HUC watersheds. The proposed action represents a comprehensive effort to improve motorized trail opportunities, existing trail and general forest area access and address natural resource concerns within the Bradshaw Ranger District. The trail and road proposals include reroutes, changes in status, adoptions, decommissions and new construction. The trailhead proposals include upgrades to existing trailheads, new construction, and decommissioning.

Resource Protection Measures and Best Management Practices

Resource protection measures have been incorporated into the GPTP Project to mitigate or reduce adverse impacts. These measures were guided by the direction in the Forest Plan (USDA Forest Service 2015); other Federal and State laws, regulations, and policy; and concerns identified by the Forest Service and the public during scoping.

Resource protection measures, including BMPs and Forest Plan standards and guidelines, were incorporated into the development of this project to ensure compliance with Section 208 of the Clean Water Act as well as the Arizona Department of Environmental Quality, Water Quality Program. Hence, there is anticipated to be no deleterious effects to the defined beneficial uses of water.

Forest Service BMPs have been designed to conserve soil and watershed resources (USDA Forest Service 2006). BMPs have been certified by the Arizona Department of Environmental Quality, Water Quality Program and approved by the U.S. Environmental Protection Agency as the most effective way to protect water quality from impacts stemming from nonpoint sources of pollution. Throughout the Forest Service, BMPs have been developed over time, based on research, monitoring, and modification, to ensure the measures are effective (Burroughs 1990; Seyedbagheri 1996; Schuler and Briggs 2000;

USDA Forest Service 2002). BMPs, taken from the Forest Service National Core Best Management Practices handbook (April 2012), have been incorporated into the planning and design of this project.

BMPs taken from the *USDA National Best Management Practices for Water Quality Management on National Forest System Lands, Vol. 1 National Core BMP Technical Guide* as well as additional mitigation maeasures in Appendix A were considered in the effects analysis for the proposed action for the GPTP Project.

By incorporating these BMPs, we believe that substantial conflicts with soil and hydrologic resources would be avoided, and potential impacts either eliminated or mitigated so that effects are within acceptable levels.

Direct and Indirect Effects – Proposed Action

Burroughs and King (1989) indicate that the highest potential for sediment introduction to a stream is when a road and/or trail is 100 feet or less from a stream, while from 100 to 300 feet there is a steady decline in the potential for sediment influence. Because of this, a 300-foot disturbance value was used as a basis for several of our hydrology resource indicators.

Table 11 discloses changes from the existing condition for the individual resource indicators and measures for the GPTP project proposed action. Each of these will be discussed in the following sections.

Table 13. Resource indicators and measures for Proposed Action

Resource Element	Resource Indicator	Measure	Proposed Action
Water Quality, Stream Channel and Watershed Function	Erosion and Sediment Delivery	Miles of trail within 300 feet of a stream, by 6th level watershed	**Miles of trail within 300 feet of streams (number in parenthesis indicates change from existing condition)** Big Bug Creek = 4.3 (- 0.2) Buzzard Roost Wash-Upper Hassayampa River = 4.7 (0.4) Chaparral Gulch-Agua Fria River = 7.0 (1.2) Crooks Canyon = 1.0 (- 0.3) Groom Creek-Upper Hassayampa River = 6.4 (0.2) Lower Skull Valley Wash = 2.4 (2.4) Lynx Creek = 8.1 (- 4.6) Upper Granite Creek-Watson Lake = 16.9 (0.4) Upper Skull Valley Wash = 5.2 (1.5) Wolf Creek = 5.9 (0)

Resource Element	Resource Indicator	Measure	Proposed Action
Water Quality, Stream Channel and Watershed Function	Erosion and Sediment Delivery	Miles of road within 300 feet of a stream, by 6th level watershed	**Miles of road within 300 feet of streams (number in parenthesis indicates change from existing condition)** Big Bug Creek = 38.5 (0) Buzzard Roost Wash-Upper Hassayampa River = 21.0 (0) Chaparral Gulch-Agua Fria River = 13.3 (0) Crooks Canyon = 15.1 (0) Groom Creek-Upper Hassayampa River = 52.6 (0.1) Lower Skull Valley Wash = 19.1 (0) Lynx Creek = 33.2 (0) Upper Granite Creek-Watson Lake = 33.4 (0) Upper Skull Valley Wash = 23.8 (0) Wolf Creek = 7.3 (0)
Water Quality, Stream Channel and Watershed Function	Erosion and Sediment Delivery	Total proposed trailheads within 300 feet of a stream, by 6th level watershed	**Number of trailheads within 300 feet of streams (number in parenthesis indicates change from existing condition)** Big Bug Creek = 0 (0) Buzzard Roost Wash-Upper Hassayampa River = 1 (1) Chaparral Gulch-Agua Fria River = Crooks Canyon = 0 (0) Groom Creek-Upper Hassayampa River = 1 (0) Lower Skull Valley Wash = 0 (0) Lynx Creek = 4 (0) Upper Granite Creek-Watson Lake = 0 (0) Upper Skull Valley Wash = 1 (0) Wolf Creek = 0 (0)

Resource Element	Resource Indicator	Measure	Proposed Action
Riparian Areas	Potential Disturbance	Miles of trail within riparian areas, by 6th level watershed	**Miles of trail within riparian areas (number in parenthesis indicates change from existing condition)** Big Bug Creek = 0.7 (0) Buzzard Roost Wash-Upper Hassayampa River = 0.6 (0) Chaparral Gulch-Agua Fria River = 0 (0) Crooks Canyon = 0 (0) Groom Creek-Upper Hassayampa River = 0.1 (0) Lower Skull Valley Wash = 0 (0) Lynx Creek = 1.1 (0) Upper Granite Creek-Watson Lake = 1.3 (0) Upper Skull Valley Wash = 0.1 (0) Wolf Creek = 1.5 (0)
Riparian Areas	Potential disturbance	Miles of road within riparian areas, by 6th level watershed	**Miles of road within riparian areas (number in parenthesis indicates change from existing condition)** Big Bug Creek = 3.0 (0) Buzzard Roost Wash-Upper Hassayampa River = 6.0 (0) Chaparral Gulch-Agua Fria River = 0 (0) Crooks Canyon = 3.9 (0) Groom Creek-Upper Hassayampa River = 5.3 (0) Lower Skull Valley Wash = 3.8 (0) Lynx Creek = 2.3 (0) Upper Granite Creek-Watson Lake = 1.2 (0) Upper Skull Valley Wash = 0.2 (0) Wolf Creek = 0.7 (0)

Resource Element	Resource Indicator	Measure	Proposed Action
Riparian Areas	Potential disturbance	Total proposed trailheads within riparian areas, by 6th level watershed	**Change in number of trailheads within riparian areas** Big Bug Creek = 0 (0) Buzzard Roost Wash-Upper Hassayampa River = 0 (0) Chaparral Gulch-Agua Fria River = 0 Crooks Canyon = 0 (0) Groom Creek-Upper Hassayampa River = 0 (0) Lower Skull Valley Wash = 0 (0) Lynx Creek = 0 (0) Upper Granite Creek-Watson Lake = 0 (0) Upper Skull Valley Wash = 0 (0) Wolf Creek = 0 (0)
Soils	Potential disturbance	Miles of trail within sensitive soils, by 6th level watershed	**Miles of trail located on sensitive soils (number in parenthesis indicates change from existing condition)** Big Bug Creek = 0.2 (0) Buzzard Roost Wash-Upper Hassayampa River = 0.2 (0.2) Chaparral Gulch-Agua Fria River = 0.5 (0.2) Crooks Canyon = 2.5 (-0.4) Groom Creek-Upper Hassayampa River = 6.7 (-0.6) Lower Skull Valley Wash = 0 (0) Lynx Creek = 8.9 (-3.6) Upper Granite Creek-Watson Lake = 11.3 (2.8) Upper Skull Valley Wash = 2.0 (0) Wolf Creek = 0.5 (0)

Resource Element	Resource Indicator	Measure	Proposed Action
Soils	Potential disturbance	Miles of road within sensitive soils, by 6th level watershed	**Miles of road located on sensitive soils (number in parenthesis indicates change from existing condition)** Big Bug Creek = 3.9 (0) Buzzard Roost Wash-Upper Hassayampa River = 0.9 (0) Chaparral Gulch-Agua Fria River = 0.4 (0) Crooks Canyon = 6.4 (0) Groom Creek-Upper Hassayampa River = 26.4 (0) Lower Skull Valley Wash = 0 (0) Lynx Creek = 17.9 (0) Upper Granite Creek-Watson Lake = 4.2 (0) Upper Skull Valley Wash = 1.9 (0) Wolf Creek = 1.3 (0)
Soils	Potential disturbance	Total proposed trailheads within sensitive soils, by 6^{th} level watershed	**Trailheads located on sensitive soils (number in parenthesis indicates change from existing condition)** Big Bug Creek = 0 (0) Buzzard Roost Wash-Upper Hassayampa River = 0 (0) Chaparral Gulch-Agua Fria River = 0 (0) Crooks Canyon = 0 (0) Groom Creek-Upper Hassayampa River = 0 (0) Lower Skull Valley Wash = 0 (0) Lynx Creek = 1 (1) Upper Granite Creek-Watson Lake = 0 (0) Upper Skull Valley Wash = 0 (0) Wolf Creek = 0 (0)

Sediment Delivery – Trails, Roads and Trailheads

To address effects from trail, road, and trailhead construction and trail and trailhead decommissioning on project area streams and overall water quality related to sediment, the net miles of trails constructed and decommissioned, miles of roads constructed, and net

number of trailheads constructed and decommissioned within 300 feet of a stream, by 6th level watershed were analyzed.

Currently, as deciphered from GIS analysis, between 0 and 16.5 miles of trails are currently located within 300 feet of stream in the ten GPTP project area watersheds. Further, between 7.3 miles and 52.5 miles of road are currently located within 300 feet of streams, and between one to four existing trailheads are located within 300 feet of streams in the ten GPTP project area watersheds.

Over the ten year planning cycle, our analysis indicates that after trail construction and decommissioning, a net gain in official trail miles would occur in six of ten project area watersheds within 300 feet of streams, a net decline in trail miles within 300 feet of streams in three of ten project area watersheds, and no change in one of ten project area watersheds. At most, an additional 2.4 trail miles would be added within 300 feet of streams within the Lower Skull Valley Wash watershed. The largest decrease in trail miles within 300 feet of streams would occur in the Lynx Creek watershed with a reduction of 4.6 miles. See Table 13 for trail density changes by GPTP project area watersheds.

Over the ten year planning cycle, our analysis further indicates that after road construction a net increase in road density within 300 feet of streams would occur in one of the ten project area watersheds. This increase would occur in the Groom Creek-Upper Hassayampa River watershed where approximately 0.1 miles of additional road would be constructed within 300 feet of streams. The remaining nine project area watersheds would see no change to road density within 300 feet of streams.

Over the ten year planning cycle, our analysis indicates that after trailhead construction and decommissioning, a net gain in official trailheads within 300 feet of streams would occur in one of ten project area watersheds within 300 feet of streams and no change in nine of ten project area watersheds. At most, an additional 1 additional trailhead would be added within 300 feet of streams within the Buzzard Roost Wash-Upper Hassayampa River watershed. See Table 10 for trailhead changes within 300 feet of streams by GPTP project area watersheds.

We believe these increases in trail density, road density, and trailheads within 300 feet of streams in project area watersheds are small. This alternative was planned to move trails away from streams and sensitive soils as much as possible, while decommissioning unauthorized routes currently causing watershed resource damage. We acknowledge that localized short-term effects from sedimentation across project area watersheds from these activities is likely, but not to the point where the overall good water quality related to sediment in the area would be impacted. We believe that as BMPs and mitigation measures listed in Appendix A are implemented, then water quality related to sediment outside of localized effects would be protected.

Riparian Areas

To address effects on riparian areas the net amount of trail constructed and decommissioned, net road constructed, and net trailheads constructed and decommissioned within riparian areas was deciphered by 6th HUC watersheds. According to GIS analysis, no riparian areas would be involved with any activity proposed under the proposed action. Therefore, we believe no impacts to riparian resources would occur under the proposed action.

Soils

To address effects from trail, road, and trailhead construction and trail and trailhead decommissioning on soils, the net miles of trails constructed and decommissioned, miles of roads constructed, and net number of trailheads constructed and decommissioned on sensitive soils, by 6th level watershed were analyzed.

Currently, as deciphered from GIS analysis, between 0 and 12.5 miles of official National Forest System trails are currently located on sensitive soils in the ten GPTP project area watersheds. Further, between 0 miles and 26.4 miles of roads are currently located within sensitive soils, and no existing trailheads are located within sensitive soils in the ten GPTP project area watersheds.

Over the ten year planning cycle, our analysis indicates that after trail construction and decommissioning a net gain in official trail miles would occur in three of ten project area watersheds on sensitive soils, a net decline in trail miles on sensitive soils in three of ten project area watersheds, and no change in four of ten project area watersheds. At most, an additional 2.8 trail miles would be added on sensitive soils within the Upper Granite Creek-Watson Lake watershed. The largest decrease in trail miles on sensitive soils would occur in the Lynx Creek watershed with a reduction of 3.6 miles. See Table 13 for trail density changes by GPTP project area watersheds.

Over the ten year planning cycle, our analysis further indicates that after road construction there would be no change to the miles of road located on sensitive soils in any of the ten project area watersheds.

Further, over the ten year planning cycle, our analysis indicates that after trailhead construction and decommissioning, a net gain in official trailheads on sensitive soils would occur in one of ten project area watersheds and no change in nine of ten project area watersheds. At most, an additional 1 additional trailhead would be added on sensitive soils within the Lynx Creek watershed. See Table 13 for trailhead changes within sensitive soils by GPTP project area watersheds.

We believe these increases in trail density and trailheads on sensitive in project area watersheds are small. This alternative was planned to move trails away from streams and sensitive soils as much as possible, while decommissioning unauthorized routes causing watershed resource damage. We acknowledge that localized impacts to sensitive soils will occur, but not to the point where the overall soil quality would be impacted. We believe that as BMPs and mitigation measures listed in Appendix A are implemented then soils quality will be protected.

Cumulative Effects of the Proposed Action

As discussed under the “Watershed Condition” section, ten 6th level HUCs were rated for functionality by the Prescott National Forest, using the WCR protocol (USDA Forest Service 2011). Seven watersheds were functioning at risk (WCC II) while the Upper Granite Creek-Watson Lake watershed was properly functioning (WCC I) and the Big Bug Creek and Wolf Creek watersheds have impaired function due to the Goodwin Fire.

Direct and indirect effects for all resource indicators for the proposed action show that minor/negligible to no effects to soils, water quality, and riparian resources would occur.

These effects are expected to be localized in nature and theoretically monitoring pre/post implementation would not show a discernable change in the resource conditions of these indicators (potential sedimentation and impacts to stream morphology, riparian and soils,) as appropriate Forest Plan standards and guidelines and BMPs are implemented.

In looking at the proposed projects that are ongoing or will be implemented in project area watersheds in the coming years (see the planning record), the projects that could impact surface water resources would be vegetation management projects (prescribed fire), road-related maintenance, livestock grazing, and mining. Resource protection measures and BMPs specific to those projects would protect water quality, riparian and wetland resources, and road conditions.

Because of this we believe the current watershed condition class for the ten project area watersheds would remain stable or improve over the planning cycle and there would be little to add to any cumulative effects.

Summary

Table 14. Summary comparison of environmental effects to watershed related resources

Resource Element	Indicator / Measure	No Action	Proposed Action
Water Quality, Stream Channel and Watershed Function	Indicator: Erosion and Sediment Delivery Measure: Miles of trail within 300 feet of a stream, by 6th level watershed	No additional trail miles within 300 feet of streams.	Localized, short-term effects to water quality, stream channel morphology, and watershed function are anticipated. Implementation of resource protection measures and BMPs expected to keep water quality at acceptable levels.
Water Quality, Stream Channel and Watershed Function	Indicator: Erosion and Sediment Delivery Measure: Miles of road within 300 feet of a stream, by 6th level watershed	No additional road miles within 300 feet of streams.	Localized, short-term effects to water quality, stream channel morphology, and watershed function are anticipated. Implementation of resource protection measures and BMPs expected to keep water quality at acceptable levels.
Water Quality, Stream Channel and Watershed Function	Indicator: Erosion and Sediment Delivery Measure: Total proposed trailheads within 300 feet of a stream, by 6th level watershed	No trailheads within 300 feet of streams.	Localized, short-term effects to water quality, stream channel morphology, and watershed function are anticipated. Implementation of resource protection measures and BMPs expected to keep water quality at acceptable levels.

Resource Element	Indicator / Measure	No Action	Proposed Action
Riparian Areas	Indicator: Potential Disturbance Measure: Miles of trail within riparian areas, by 6th level watershed	No disturbance would occur.	No disturbance would occur.
Riparian Areas	Indicator: Potential Disturbance Measure: Miles of road within riparian areas, by 6th level watershed	No disturbance would occur.	No disturbance would occur.
Riparian Areas	Indicator: Potential Disturbance Measure: Total proposed trailheads within riparian areas, by 6th level watershed	No disturbance would occur.	No disturbance would occur.
Soils	Indicator: Potential Disturbance Measure: Miles of trail within sensitive soils, by 6th level watershed	No disturbance would occur.	Localized, short-term effects to soil quality are anticipated. Implementation of resource protection measures and BMPs expected to keep soil quality at acceptable levels.
Soils	Indicator: Potential Disturbance Measure: Miles of road within sensitive soils, by 6th level watershed	No disturbance would occur.	No disturbance would occur.
Soils	Indicator: Potential Disturbance Measure: Total proposed trailheads within sensitive soils, by 6th level watershed	No disturbance would occur.	Localized, short-term effects to soil quality are anticipated. Implementation of resource protection measures and BMPs expected to keep soil quality at acceptable levels.

Wildlife

Background

The Greater Prescott Trails Planning area on the Bradshaw Ranger District has an existing 305 miles of motorized and non-motorized trails. The project area generally lies from Granite Mountain Wilderness in a horseshoe to the south around to the eastern forest boundary near Lynx Lake and encompasses 205,554 acres of National Forest System land. The setting is the wildland urban interface surrounding Prescott with high recreational use of many different types and popular trails for all users.

A complete and thorough assessment of the terrestrial species and habitats within the project area can be found in the Terrestrial Wildlife Specialist Report which contains the complete lists of species considered for each category and all of the relevant maps for the species discussed.

Existing Conditions

Endangered Species: Mexican spotted owls (MSO) are known to occur throughout the project area from Highland Pines in Area B on the west side of the project (Map Area B), to Payoff, Tritle, Silver Spruce, Venezia and Palace in Area C in the middle of the project (Map Area C), to Transcendent, Mtn. Pine Acres, Snowdrift, Wolf, Smith Ravine, Big Bug and Grapevine in Area D on the east side of the project area (Map Area D). Thirteen MSO protected activity centers (PACs) occur within the project area. There is also quite a bit of recovery habitat adjacent to most of the MSO PAC habitat within the project area. With past beetle mortality and lack of forest health treatments, there is an over-abundance of both snags and large down-woody materials within much of the MSO PAC and recovery habitat.

Mexican spotted owl critical habitat: MSO critical habitat occurs throughout the project area. Those areas within the Boundary WUI Project area polygon are exempt from designation as critical habitat per the Federal Register. This includes the trail actions near Sevenmile in the recovery habitat by the Smith Ravine PAC as well as the trail decommission in the Payoff PAC. Most of the recovery habitat lies adjacent to delineated PACs. Some of the recovery habitat is in stands or areas separate from the PACs. With past beetle mortality and lack of forest health treatments, there is an over-abundance of both snags and large down-woody materials within much of the MSO PAC and recovery habitat. The only place where critical habitat primary constituent elements are near a trail action is the Little Wolf Trail decommission adjacent to the Grapevine MSO PAC in Area D. The trail action does not go into any of the protected or recovery habitat.

Bald and Golden eagles: Bald eagles are known to nest at Lynx Lake (Map Area D) and winter roost at Goldwater Lake (Map Area C). Golden eagles are known to forage in the project area and occur in one site (Map Area D).

Migratory Birds: Based on the vegetation types within the project area and the proposed treatments in the various vegetation types, thirty-three migratory bird species might be expected to occur within the project area.

Regional Forester Sensitive Species: Eight of the thirty Regional Forester's Sensitive species are known or would be expected to occur within the project area: American peregrine

falcon, bald eagle, northern goshawk, lowland leopard frog, Verde Rim springsnail, Townsend's big-eared bat, broad-leafed lupine, and Eastwood alumroot.

Northern goshawks are known to occur near Highland Pines (Map area B), Kendyll Camp and Mt. Tritle (Map Area C) in the project area.

Peregrines nest at both Granite Mountain Wilderness (Map Area A) as well as at Thumb Butte (Map Area B) and forage throughout the project area. No trail actions are proposed near their nesting habitat. Trail actions would not be expected to impact peregrine foraging behavior or habitat use.

Bald eagles are known to nest at Lynx Lake (Map Area D) and winter roost at Goldwater Lake (Map Area C). There are no trail actions near these areas.

Lowland leopard frogs occur in the project area in Mint Wash, Hassayampa River, Big Bug Creek, and Turkey Creek. Verde Rim spring snails occur in the Grapevine Botanical Area. No trail actions are proposed in or near the habitat for these species.

Pale Townsend's big-eared bats could occur in the project area in mine adits or shafts. Trail actions would not be expected to impact habitat within mines.

Broad-leafed lupine occur in robust populations in the project area in riparian areas predominantly near roads. Eastwood alumroot is known to occur in the project area along the Senator Highway. No trail actions are proposed near known populations of these species or their known habitats.

Environmental Consequences

Endangered species: There is one trail action proposed within MSO PAC habitat; decommissioning of Trail 065. The total length of the trail is 2.82 miles, about ½ mile of which occurs in the Payoff MSO PAC (Map Area C). This was an existing trail that is now exhibiting unacceptable resource concerns to the soils in the area. While a realignment for the trail was considered, it was deemed not appropriate due to the concerns for the potential for negative impacts to MSO and their habitat. All actions to decommission the trail within the PAC and within ¼ mile of the PAC would have an MSO breeding season timing restriction (BSTR) from Mar1-Aug31 each season. Activities may occur Sept 1-Feb28 each season.

Disturbance impacts to MSO from the trail actions during the breeding season would be eliminated. MSO using the PAC outside the breeding season may be caused to move away from actions to obliterate the trail. These disturbance impacts would be temporary and short term. MSO may return to the area after the project is completed.

Snags would be felled near the trail alignment solely for the safety of crews working on restoring the trail alignment to a natural condition. The steepness of the location would limit the use of equipment such that most of the trail work would be done with hand tools or chainsaws. Most of the impacts to the physical habitat would be to the soil within the trail alignment with some movement or placement of downed logs and scattered brush to stabilize the soil and prevent future use of the trail by all trail users.

Eliminating this trail in the midst of the Payoff MSO PAC core area may have some short-term changes to the understory habitat. Falling snags within the core outside of the breeding

season may eliminate some future nesting options for MSO using the Payoff PAC. Every effort will be taken to protect and retain any known nest tree within the stand. The felled snags will become large down woody materials that will provide prey habitat for small mammals within the core of the PAC. The long-term benefit is eliminating disturbance from people in the core of the MSO PAC during the breeding season for many years to come.

Another trail action near MSO PAC habitat is the decommissioning of the motorized Little Wolf Trail immediately adjacent to the Grapevine PAC in Area D. While none of the trail alignment occurs within the Grapevine MSO PAC, any portions or access to other portions within ¼ mile of the boundary of the Grapevine MSO PAC would have a breeding season timing restriction from Mar1-Aug31, allowing activities to occur Sept 1-Feb28. MSO using the PAC outside of the breeding season may be slightly disturbed by noise from trail obliteration activities. This would be short term, temporary disturbance to MSO who may move out and away from the noise and then back when the disturbance has stopped. Eliminating this trail may not have discernible impacts to MSO in Grapevine. Possible benefits include eliminating the noise from ATVs and other motorized vehicles along the edge of the MSO PAC providing higher quality setting for MSO in the PAC.

Finally, eliminating and decommissioning about 4.25 miles of unauthorized motorized trails within MSO recovery habitat within the Sevenmile portion of Area D may improve habitat near the Smith Ravine MSO PAC. Any trail actions within ¼ mile of the boundary of the PAC would have a breeding season timing restriction from Mar1-Aug31 each season, allowing activities to occur Sept1-Feb28 each season. With the current unauthorized motorized use occurring in the area and the proposed future motorized use adjacent to the recovery habitat, it is not likely that MSO use this area now or would be inclined to use it in the future. Impacts would include falling any snags necessary for crew safety, moving soils and rocks to re-contour exposed areas to the slope and protect the soil from eroding. There would not be any direct effects from these trail removals and indirect effects would be indiscernible.

Mexican spotted owl Critical Habitat: The Highland PAC is in critical habitat but there are no trail actions in or near the PAC.

Because the Payoff PAC is within the Boundary WUI Project polygon, it is exempt from designation as critical habitat. The same is true for the trail actions in the recovery habitat by Smith Ravine in the Sevenmile area.

Decommissioning the motorized Little Wolf Trail immediately adjacent to the Grapevine PAC in Area D does not occur within any protected or recovery habitat, therefore no primary constituent elements occur along the trail alignment or would be impacted by its decommissioning. Forest structure, prey species habitat, and canyon habitat would not be impacted by this trail action.

Eagles: There are no proposed trail actions near the known bald eagle habitat use areas or the golden eagle known site within the project area. There would not be any anticipated take of bald or golden eagles.

Migratory Birds: Based on the vegetation types within the project area and the proposed treatments in the various vegetation types, 33 species of migratory birds might be expected to occur within the project area. Short term impacts to migratory birds include disturbance

during nesting, displacement from foraging, and reduction of cover. However, these are all limited to occurring along the thin ribbon of the trail alignment within the habitats, impacting a small part of the larger landscape. Snag retention would be compliant with the forest plan direction in this project and snags would only be removed as they pertain to safety. Removal and/or destruction of vegetation used by migratory birds is NOT a taking under the MBTA. Long term benefits to migratory birds include removing trails from areas which would result in improving habitat quality in those areas.

The project area is south of the Watson-Willow Lakes IBA and would not be expected to impact the conservation issues of this IBA.

Regional Forester Sensitive species: There are no trail actions proposed in the goshawk PFAs. The MSO BSTR on the trail action in Payoff MSO PAC will alleviate any disturbance to the adjacent goshawks during the breeding season..

Cumulative Effects

Past, present, and reasonably foreseeable future activities affecting wildlife and habitat include vegetation treatments (wildfire and prescribed fire), recreation, mining, and livestock grazing. While most of these activities affected the quality of wildlife habitat; there were also disturbance impacts from these activities. The disturbance impacts from this project would be additive to the disturbance impacts associated with both the Bradshaw Vegetation Project and the Hassayampa Landscape Restoration Project, particularly for the Payoff and Grapevine MSO PACs. While the types of disturbance are different, the impacts are similar, potentially causing MSO to leave or move away from human presence, or equipment noise outside of the breeding season. The Smith Ravine MSO PAC would not have cumulative effects as it is not impacted by either the Bradshaw or Hassayampa projects. The disturbance impacts are short term and temporary in all cases. Vegetation changes to MSO habitat including falling snags for safety or fuelbreak purposes would be additive for the projects.

No Action

Although there would not be the impacts from trail decommissioning, for the Payoff MSO motorized trail use could continue or even increase as motorized trail riding grows in popularity. Continued and increased disturbance by motorized off-road vehicles in the midst of the core or no-activity center would continue to degrade the quality of the MSO PAC until it becomes unsuitable habitat for MSO strictly based on the disturbance from use. Currently, MSO are known to be using the PAC, including this field season. Nesting in this PAC has been spotty at best.

For the Grapevine MSO PAC, continued use of the motorized trail adjacent to the PAC may continue to cause minor noise disturbance, thereby degrading the quality of the habitat although not impacting any primary constituent elements. MSO have been documented reproducing in this location with the existing trail indicating that the current use on the trail is not enough to have deleterious effects to the owls. Increased popularity of motorized trail use may lead to an increase in intensity, timing, and duration of use that may reach a threshold that we are not aware of for MSO tolerance of motorized use. For the Smith Ravine MSO PAC, proliferation of the unchecked unauthorized cross-country motorized travel could lead to trail intrusion into the MSO PAC habitat. The quality of the recovery habitat would

continue to degrade with continued or probably increased motorized use based on expectation of increased popularity of motorized trail use.

In MSO Critical Habitat, for the Grapevine MSO PAC, continued use of the motorized trail adjacent to the PAC may continue to cause minor noise disturbance, thereby degrading the quality of the habitat although not impacting any primary constituent elements. MSO have been documented reproducing in this location with the existing trail indicating that the current use on the trail is not enough to have deleterious effects to the owls. Increased popularity of motorized trail use may lead to an increase in intensity, timing, and duration of use that may reach a threshold that decreases the quality of the adjacent habitat although not impacting any primary constituent elements. Forest structure, prey species habitat and canyon habitat would not be impacted by lack of this trail action.

Cumulative Effects

The disturbance impacts from this alternative would be additive to the disturbance impacts associated with both the Bradshaw Vegetation Project and the Hassayampa Landscape Restoration Project particularly for the Payoff and Grapevine MSO PACs. While the types of disturbances are different, the impacts are similar, potentially causing MSO to leave or move away from human presence, or equipment noise. The Smith Ravine MSO PAC would not have cumulative effects as it is not impacted by either the Bradshaw or Hassayampa projects. The disturbance impacts from the projects are short term and temporary while the ongoing trail use is not.

Cultural Resources

Background

The Prescott National Forest's cultural history is generally divided into five periods of occupation: the Paleoindian (9500-6500 B.C.), Archaic (6500 B.C.–A.D. 200), Formative (A.D. 200-1425), Protohistoric (A.D. 1425-1583), and Historic (A.D. 1583 to present). Cultural groups in the Forest include the Prescott Culture, Hohokam, Cohonina, and Sinagua, followed by the Yavapai. Historic mining and railroad operations beginning in the 1880s also add to the rich history of the Prescott region along with homesteading, logging, and ranching.

The Prescott National Forest is approximately 1.25 million acres and there is approximately 153,032 acres of Heritage survey since 1976. Those numbers indicate approximately 12% of the Forest has been surveyed for cultural resources.

Heritage survey includes block survey and as well as linear surveys that covered ridge lines, for example, that had potential for unrecorded cultural resources.

- GPTP Area A is approximately 41,938 acres. There is approximately 4,612 acres of Heritage survey.
- GPTP Area B is approximately 49,805 acres and there is approximately 13,730 acres of Heritage survey.
- GPTP Area C is approximately 60,914 acres and there is approximately 9,950 acres of Heritage survey.

- GPTP Area D is approximately 72,903 acres and there is approximately 10,934 acres of Heritage survey.

Heritage records indicate approximately 40-50% of the proposed trail segments in Sevenmile Gulch, for example, have been covered in previous block and linear surveys.

There are 3,000 recorded cultural resources in the Prescott National Forest and approximately 1,000 of these are located within the Bradshaw Ranger District. Cultural resources, also characterized as Heritage resources, represent the tangible and intangible evidence of past human behavior and have the potential through research to increase the knowledge and interpretation of human activities within the Prescott National Forest. Cultural resources may consist of prehistoric archaeological sites; historic camps and railroads; and traditional use areas and cultural areas that are important to a Native American tribe's traditional beliefs, religion, or cultural practices. These types of resources are finite and are not renewable.

The primary legislation governing cultural resource management is the National Historic Preservation Act (NHPA) of 1966 (as amended in 2000). The NHPA requires that Federal agencies analyze the effects of their undertakings on "historic properties." The term "historic properties" refers to cultural resources, both prehistoric and historic, that are listed or eligible for listing in the National Register of Historic Places (NRHP). The Forest Service's Southwest Region 3 has a Programmatic Agreement (PA) with the Advisory Council on Historic Preservation (ACHP) and State Historic Preservation Office (SHPO) that outlines the Forest's responsibilities for complying with the NHPA. Region 3 includes the Prescott National Forest and ten other forests in both Arizona and New Mexico.

The R3 PA lays out the standard consultation protocols for travel management route designation as Appendix I of the PA. By following the procedures of the protocol, the ACHP and the SHPOs have agreed that the Forest Service will satisfy legal requirements for the identification, evaluation, protection, and treatment of historic properties.

As indicated in the R3 PA Appendix I Section 3, the designation of motorized trails and roads that will require Section 106 consultation with the SHPO include:

- previously closed roads and trails not open to motor vehicle use
- non-system roads and trails, such as unauthorized user-created roads, old temporary roads, and other unclassified roads and trails
- non-system fixed routes or spurs and their associated features to access dispersed camp sites or areas, including the dispersed camp sites and areas themselves
- fixed-distance corridors along certain roads, including exempt roads, that will be designated for dispersed camping
- areas open to cross-country motorized travel
- roads or trails that are considered to be historic properties
- proposed new construction, reroutes, and realignments

Existing system roads and trails and their associated constructed features that are already open for motorized use are exempt from further Section 106 consultation.

Consultation with the following Native American Indian tribes was conducted with correspondence dated April 12, 2017: Hopi Tribe, Hualapai Tribe, Yavapai-Apache Tribe, Tonto Apache Tribe, Yavapai Prescott Indian Tribe, and Fort McDowell Yavapai Nation. Correspondence included information about the Greater Prescott Trails Program and potential trail system improvements. To date, the PNF has received no formal or informal response to this correspondence.

Methodology for Analysis: Heritage evaluation is based on paper and digital record searches from previous survey projects conducted between the 1976 and 2018. Digitized survey coverages and cultural resource site data were reviewed geospatially in ArcGIS and in the Natural Resource Manager (NRM) database.

In order to identify cultural resources that might be affected by the proposed actions, each trail, road, trailhead, and staging area was buffered by 50 meters. This was required since many of the cultural resources records lack updated site boundaries.

Site recordings and project surveys completed prior to 1987 are considered not to current standards and will need a new 100% survey. As a baseline, existing survey strategy design in the Bradshaw Vegetation Analysis Area (BVAA) indicate that areas with a slope percentage of 20% and greater have a low likelihood of containing unrecorded cultural resources. The exceptions would typically be historic mining sites and hilltop prehistoric forts. As of June 2018, there are approximately 60 cultural resources that extend into or are located completely within areas of 20% slope of greater in GPTP Areas A, B, C, and D.

Affected Cultural Resources: The proposed trail projects occur primarily in the Bradshaw Ranger District. This area has a high archaeological site density of both prehistoric and historic sites, especially in areas west of Sevenmile Gulch.

Combining all the GPTP Midterm #2 proposed trails, there are currently (12) recorded cultural resources within 100 meters of the proposed trails that may need to be inventoried onsite and the site boundary confirmed to assess potential site degradation in conjunction with the proposed trail and to ensure protection. These sites include prehistoric habitation structures, tool processing areas, ceramic and lithic artifact scatters, as well as historic camps, mining, and railroad sites.

Currently, there are no recorded cultural resources within 100 meters of the proposed roads actions.

There are six cultural resources within 100 meters of the proposed trailhead and staging areas. These cultural resources would need to be relocated and their boundaries confirmed.

The number of cultural resources that may be affected by the proposed actions may increase as new Heritage survey has been completed.

Mitigation Measures and Cumulative Effects: The proposed trails are moving targets as they have not yet been flagged with 100% accuracy. Until all proposed trails, trailheads, and cultural resources have been surveyed and inventoried, the potential impacts from human, animal, and motorized activity will not be clear.

In proposed project areas where 100% survey does not exist and upon implementation, cultural resource information from ArcGIS, the Forest's NRM database, inventory maps and reports, the professional judgment of the Forest's Heritage staff, and other existing cultural resources information will be considered when analyzing mitigation measures. Consultation with SHPO is expected in areas that have less than 100% survey.

To ensure protection of cultural resources, trails may need to be realigned or closed off completely and trailhead design may need to be reconfigured. Since all known cultural resources will be buffered, flagged, and avoided by the proposed (finalized) trailheads and road/trail alignments, there will be no notable effects to cultural resources resulting from this project.

Cumulative Effects

Past, present, and reasonably foreseeable future activities in the project area include livestock grazing, mining, wildfire and prescribed fires, and various recreational uses. Many historic uses likely impacted heritage resources, and these impacts are now considered current conditions. All present and future ground disturbing activities approved by the Forest Service in these areas now must undergo analysis for potential impacts to heritage resources, and mitigations are included to eliminate or minimize impacts. Because of mitigation measures that will be implemented for the Greater Prescott Trails Midterm Projects #2, there will be no adverse impacts to heritage resources and therefore no notable cumulative effect to add to the effects of past, present, and reasonable foreseeable future activities.

Range

Background and Existing Conditions

A small portion of the proposed area between White Spar and Senator Highway has been closed to grazing for various reasons such as protection of a municipal watershed, lack of capable grazing lands in densely forested vegetation types, or to emphasize recreational uses.

The Sevenmile Gulch area is within the Smith Pasture of the Big Bug Allotment. Currently this allotment is on a pasture rotation cycle of approximately 24 months. Cattle will be in this area approximately every two years. Currently this permit is for 140 head of cattle. Cattle were last in this area from November 2017 through May 2018.

Trails and roads have been used by ranching partners for transportation and moving livestock from one area to another for over a century. Many current "multi-use" trails started out as livestock trails, created to move cattle from one area to another to reduce shipping costs. Livestock use trails to move from one area of a pasture to another, and from water sources to feeding areas. New trails benefit ranching partners. Decommissioned trails may still be used by livestock.

Trailheads

The proposed **Gates Tank Road Trailhead** is on the road to Gates Tank, and in Walker West Pasture. This tank also has corrals and is the location the rancher uses to manage livestock when entering and leaving this pasture. Access through the trailhead must be allowed for the

grazing permittee. The entire trailhead area must have fencing to prevent livestock from accessing Walker Road. The area near this trailhead is used by livestock when in this area.

Decommissioning of **Sevenmile Gulch Trailhead** will increase the difficulty for the Grazing Permitee to access several water developments in that area. We propose that a small gate remain for Forest Service personnel and permittee access to the area to mitigate this.

The **White Horse Trailhead** would not affect the grazing of the White Horse Pasture. The trailhead falls within the White Horse Pasture of the Big Bug Allotment. Currently the Big Bug Allotment is on a pasture rotation cycle of approximately 24 month. Cattle will be in this area every two years. Currently this permit is for 140 head of cattle. It is likely cattle will be in this pasture for 2-3 months at a time, largely dependent of availability of water for proper distribution.

Glen Oaks Trailhead improvements will not have an effect on the grazing permittee. This trailhead falls within the Board Creek Allotment and is currently permitted 120 head from November 15 through May 15. The pasture was last used in 2017. Livestock do congregate in this area due to available water nearby.

Environmental Consequences to Range Resources

Constructing trails, roads, and trailheads can remove existing vegetation that serves as forage for cattle. The amount of forage removed would be negligible to the grazing operation as a whole and would not affect the carrying capacity of the allotment.

The greatest concern to grazing operations would be that as trails pass through fences that separate pastures on allotments, gates could be left open. If gates are left open, cattle can access pastures not scheduled for grazing. This has consequences for both proper use of the forage resource and for the time and effort needed for the rancher to manage the cattle. Grazing allotments are managed so that forage plants are grazed for only a small portion of the year, typically 3 months or less, then cattle are removed to allow the plants to regrow. When there are reports of cattle in the incorrect pasture, the Forest Service grazing permit administrator will contact the grazing permit holder and instruct that person to remove the cattle by a certain date. Repeated occurrences of cattle in the wrong pasture can lead to suspension or cancellation of the term grazing permit.

Mitigation

When trails intersect range fences, issues may arise. To avoid gates being left open, it is essential to properly design gates so that trail users can easily close them, or provide walk-throughs where the trail passes through a barbed wire cattle fence. Walk-throughs may not be preferred on mountain bike trails or for OHV. Where gates are used there should be signage on the gates telling trail users that gates must be kept closed. Trails that will receive equestrian use should have gates that can be opened and closed while on horseback. Gates should have easy latching mechanisms. Self-closing gates have been used on some forests with success. At trailheads there should be either walk-throughs or good quality equestrian gates.

Trail user conflicts with cattle are possible. Signage about cattle being in the area can educate forest users about the multiple use nature of Forest Service lands.

Cumulative Effects

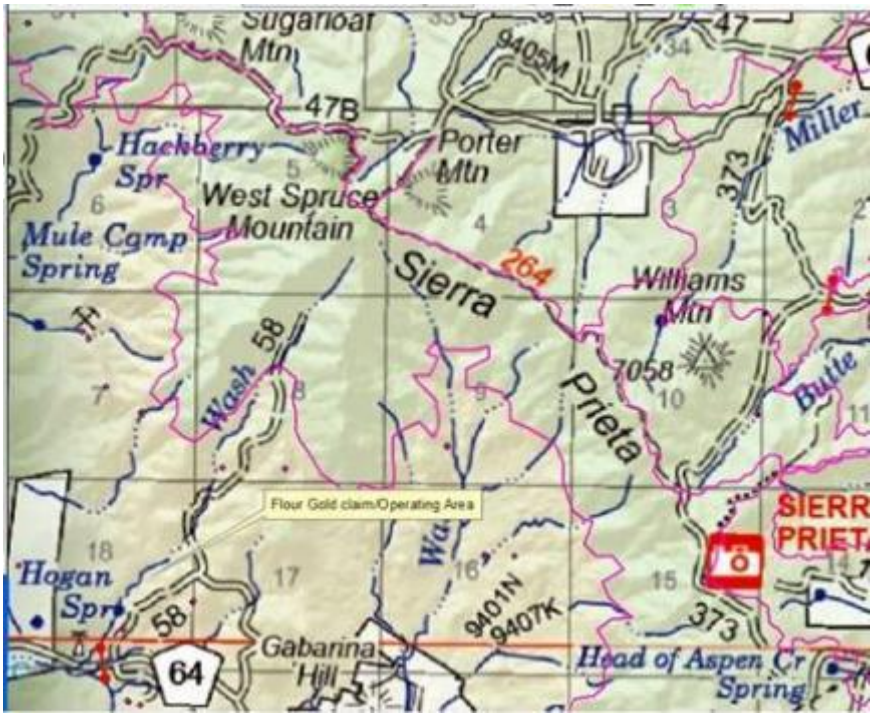
Impacts to grazing allotments from other actions in the project area include vegetation treatments, particularly wildfire and prescribed fire, which can leave pastures unuseable for a period of time. Because impacts to grazing allotments from the Greater Prescott Trails Midterm #2 project would be negligible, there is really nothing of note to add to the impacts of other past, present, and reasonable foreseeable future actions.

Minerals

Background

There are several placer and lode claims in and around the project area that are active. Some claims (likely small scale prospecting) have not filed a Plan of Operations (PoO) with the Prescott National Forest. Bigger operations in the area include Dunbar Schist Quarries (west of Lynx Lake South Shore) and Pine Creek Mining (just northeast of Wilhoit, AZ). A few placer activities are operating under a Plan of Operation or Notice of Intent. The Roadrunner Prospectors Club has over 60 placer claims along the main drainages in the Bradshaw Ranger District. Some claims are in the drainages and should not interfere with the trails. Some claims without a PoO are alongside or near the trails.

A review of the abandoned mines GIS layer indicate there are mining related features throughout the proposed project area. Public safety may be an issue given the potential for some open shafts and adits near trails. Some of the proposed trails may cross Flour Gold Lode claims.



Within the project area there are no CERCLA sites in the process of clean-up. A portion of the proposed trail system is near the Hackberry Mine Dump (private land) east of Grapevine Creek. The Pentland Mine, about ½ mile from Hackberry Mine, is being proposed for CERCLA clean-up. There are some associated tailings nearby on private land.

Existing Conditions

Affected Mineral Resources

Some of the trails may cross the Flour Gold mine lode claims. Throughout the project area, there may be open shafts and adits from abandoned mines near trails. The Pentland Mine which is about ½ mile from Hackberry Mine (near Grapevine Creek), is being proposed for CERCLA clean-up.

Environmental Consequences

The Greater Prescott Trails Mid-term 2 project should not impact mineral operations. Past and present mining operations may present a safety hazard to trail users.

Figure 3 Location of Flour Gold lode claims

No Action

There would be no notable impacts to mineral resources from the No Action alternative.

Cumulative Effects

Because there would be no notable impacts to mining operations from the proposed action, there would be nothing to add to cumulative impacts.

Invasive and Sensitive Plants

Invasive Plant Species

Existing trails in the Prescott Basin area are known to have populations of Dalmatian toadflax on or near trails. There are also some occurrences of knapweed (Russian or spotted). The act of trail construction can spread weed seeds by using tools or equipment that have not been properly cleaned of mud or debris that can carry invasive plant seeds. Constructing a trail or trailhead exposes bare mineral soil that is susceptible to colonization by invasive plants. To mitigate the risk of spreading invasive species on new and existing trails, portions of the **Guidance for Invasive Species Management in the Southwestern Region** have been incorporated into Project Mitigation Measures (Appendix A).

Sensitive Plant Species

Prior to project implementation, surveys would be conducted if it is determined that highly suitable potential habitat is likely to exist for the Region 3 sensitive plants known to occur in areas proposed for construction or rehabilitation. Species that occur near the planning area include Eastwood alum root (*Heuchera eastwoodiae*) and Broadleaf lupine (*Lupinus latifolius*). See GPTP2 Wildlife, Fish, & Rare Plant Report for more information.

Measures that can be taken to prevent spread of invasive weeds in recreational areas include—

- Prior to project implementation, consult a Forest specialist (e.g. Ecologist, Biologist) to ensure target Region 3 plant species are correctly identified in the project area. If other sensitive plant species are detected (other than those currently known to exist in the project area) follow sensitive plant species resource protection measures to minimize potential negative impacts.
- Where feasible and practical, avoid or minimize trail construction in locations of known populations of Region 3 sensitive plants.

Cumulative Impacts

Over the past few hundred years, invasive plant (and animal) species have been introduced, either intentionally or accidentally, throughout the the country, and indeed, much of the world. Many forms of activities can spread invasive plantsas seeds and plant parts can "hitchhike" to new locations on tires, equipment, hikers' clothes and shoes, pets, livestock and pack stock. The Prescott National Forest has policies in place to attempt to minimize the spread of invasive plants; however, in some cases these plants may be too well established and we must adapt as much as possible to their presence. The Greater Prescott Trails Midterm Projects #2 has mitigations built in to minimize the spread of invasive plants, therefore there would be little to add to the cumulative effects of other activities.

Senstive plant species are considered sensitive generally because they are fairly rare, at least in the area where they are sensitive. Oftentimes this is due to habitat loss, other times if may be because the plant's habitat is a rare or unique type of community. In any case, mitigations in the design for the Greater Prescott Trails Midterm Projects #2 will help protect sensitive plants so that impacts to these plants would not add to cumulative impacts of past, present and reasonable foreseeable future activities.

Agencies and Persons Consulted

The Forest Service consulted the following individuals, Federal, State, tribal, and local agencies during the development of this environmental assessment:

Tribes

The following tribes were consulted: Hopi Tribe, Hualapai Tribe, Yavapai-Apache Tribe, Tonto Apache Tribe, Yavapai Prescott Indian Tribe, and Fort McDowell Yavapai Nation.

Federal, State, County, and Local Agencies and Organizations

Numerous Federal, State, county, and local agencies and organizations have been consulted in development this EA. Complete mailing lists for the scoping periods are available in the planning record. Some of the agencies consulted include:

Federal

U.S. Department of Agriculture
- Rural Development

U.S. Department of the Interior
- Bureau of Land Management
- Fish and Wildlife Service

State

Arizona Game and Fish Department

Arizona State Parks
- Arizona OHV Ambassador Program

Arizona State University

Northern Arizona University

University of Arizona

County

Yavapai County
- Board of Supervisors
- Regional Trails Planning
- Trails Committee
- Roads Department

Local Municipalities

City of Prescott

City of Prescott Valley

Town of Chino Valley

Town of Jerome

Unincorporated Communities

Walker

Others

Numerous groups and individuals participated in the process through written comments and by attending public meetings. Groups consulted include:

APS

Arizona Conservation Experience

Back Country Horsemen of Central Arizona

Center for Biological Diversity

Chino Valley Parks & Recreation Advisory Committee

Community Forest Stewardship Forum

Embry Riddle Aeronautical University

Emmanuel Pines Camp

Forest Trails Homeowners Association

Friends of Arizona Trails

Highland Center for Natural History

Highland Pines Homeowners Association

International Mountain Bicycling Association

National Wild Turkey Federation

Open Space Alliance

Prescott College

Prescott Hiking Club

Prescott Mountain Bike Alliance

Prescott Nature Walkers

Prescott Outings Club

Prescott Open Trails Association

Prescott Saddle Club

Prescott Trail Riders

Prescott Trail Safety Coalition

Prescott Chamber of Commerce

Prescott Valley Chamber of Commerce

Sierra Club, Grand Canyon Chapter

The Nature Conservancy

Upper Verde Wild and Scenic River Steering Group

Verde Valley Cyclists

Volunteers for Outdoor Arizona

Willow Springs Girl Scout Camp

Yavapai College

Yavapai Trails Association

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Appendix A. Project Mitigations and BMPs

All trails authorized through this proposal will be accurately mapped and flagged on the ground before construction. Efforts will be made to follow the proposed alignment as close as possible during layout with the following resource objectives guiding implementation.

1. Cultural Resource

To ensure avoidance of cultural resources, trails may need to be realigned or closed off completely. As GIS maps and the proposed trail system are updated, Heritage Resource site plots may increase or decrease.

All known sites would be protected as directed by Forest Archaeologist and detailed in an archaeological clearance report.

Prior to implementation, all sites flagged for avoidance will be re-checked to make sure all flagging remains in place. This is especially important if there has been a lapse in time between flagging and implementation.

If sites are found during project layout or implementation, these activities would cease in the area of the site until a Forest Service archeologist can assess the discovery.

2. Wildlife

Construction or rehabilitation work within a PAC and within a ¼ mile of a PAC will not occur during MSO breeding season timing restriction (BSTR) from Mar1-Aug31 each season. Activities may occur Sept 1-Feb28 each season.

3. Soils

If a final trail alignment falls within a high risk area, 40% or greater slope gradient, and/or severe plasticity soils, coordination will occur with the forest's soil's specialist before construction to ensure proper documentation and adherence to Best Management Practices (BMPs)

The following are recommended practices to mitigate the risk of sedimentation:

- Stabilizing slopes, creating natural vegetation buffers, diverting runoff from exposed areas, controlling the volume and velocity of runoff, and conveying that runoff away from the construction area all serve to reduce erosion.

- During trail construction, minimize the amount of soil disturbance at stream crossings.

- Trail construction is best done during the dry months when soil saturation and water levels are at their lowest.

- The three most important factors to consider during trail construction are the character of the land itself (soil, slope, and vegetative cover), the type of expected use, and the volume of that expected use.
- Some trail construction areas may need to be stabilized if heavy traffic is expected on the trail.
- Install temporary erosion control measures before construction of new trails begins. Keep them in place and maintained during construction and remove them only after the site has been stabilized.
- In areas of high traffic or steep slopes, armor the trail with large material and increase the occurrences of gradient reversal.

4. Hydrology

Standards which reduce sediment include: out-sloped trails and gradient reversal every 40 feet on trails with a 2-10% gradient and every 20 feet on trails with a gradient greater than 10% will decrease sediment. If a final trail alignment falls in a Streamside Management Zone (SMZ), coordination will occur with the forest's hydrologist and BMPs will be established to ensure proper mitigation for protection of these areas. Additional mitigations measures, such as hardening, armoring with additional rock and additional rolling dips, will be implemented where trails features lie within SMZ's, on sensitive soils, or deemed pertinent to protect soil and water resources.

5. Minerals

Coordinate implementation with mine operators and a forest geologists.

6. Range

ATV or Motorcycle cattle guards will be used in all fence crosings where feasible. When terrain prohibits the use of cattle guards, simple gates will be used. Trail user conflicts with cattle are possible. Signage about cattle being in the area can educate forest users about the multiple use nature of Forest Service lands.

7. Recreation

BMP Rec-4 requires the following practices:

- Locate or relocate trails to conform to the terrain, provide suitable drainage, provide adequate pollutant filtering between the trail and nearby waterbodies, and reduce potential adverse effects to soil, water quality, or riparian resources.
- Avoid sensitive areas, such as riparian areas, wetlands, stream crossings, inner gorges, and unstable areas to the extent practicable.

- Use suitable measures to mitigate trail impacts to the extent practicable where sensitive areas are unavoidable.
- Use suitable measures to hydrologically disconnect trails from waterbodies to the extent practicable.
- Design, construct, and maintain trail width, grades, curves, and switchbacks suitable to the terrain and designated use.
- Use applicable practices for control of erosion and storm water when constructing trails.
- Install and maintain suitable drainage measures to collect and disperse runoff and avoid or minimize erosion of trail surface and adjacent areas.
- Use and maintain surfacing materials suitable to the trail site and use to withstand traffic and minimize runoff and erosion.
- Pay particular attention to areas where high wheel slip (curves, acceleration, and braking) during motorized use generates loose soil material.
- Design stream crossings to use the most cost-efficient structure consistent with resource protection, facility needs, and types of use and safety obligations
- Designate season of use to avoid periods when trail surfaces are particularly prone to unacceptable erosion, rutting, or compaction.
- Monitor trail condition at regular intervals to identify drainage and trail surface maintenance needs to avoid, minimize, or mitigate adverse effects to soil, water quality, and riparian resources.
- Manage designated trails to mitigate adverse effects to soil, water quality, and riparian resources from over-use when closure and rehabilitation is not practicable or desired.

BMP Road-6 requires the following practices:

- Evaluate risks to soil, water quality, and riparian resources and use the most practicable, cost effective treatments to achieve long-term desired conditions and water quality management goals and objectives.
- Implement suitable measures to re-establish stable slope contours and surface and subsurface hydrologic pathways where necessary to the extent practicable to avoid or minimize adverse effects to soil, water quality, and riparian resources:

  - Remove drainage structures.
  - Recontour and stabilize cut slopes and fill material.
  - Reshape the channel and streambanks at crossing sites to pass expected flows without scouring or ponding, minimize potential for undercutting or slumping of streambanks, and maintain continuation of channel dimensions and longitudinal profile through the crossing site.
  - Restore or replace streambed materials to a particle size distribution suitable for the site.
  - Restore floodplain function.

- Implement suitable measures to promote infiltration of runoff and intercepted flow and desired vegetation growth on the road prism and other compacted areas.

BMP Road-9 requires the following practices:

- Design and locate parking and staging areas of appropriate size and configuration to accommodate expected vehicles and avoid or minimize adverse effects to adjacent soil, water quality, and riparian resources.
- Consider the number and type of vehicles to determine parking or staging area size.
- Use applicable stormwater management and erosion control when designing, constructing, reconstructing, or maintaining parking or staging areas.
- Use suitable measures to harden and avoid or minimize damage to parking area surfaces that experience heavy use or are used during wet periods.
- When designing the area, take advantage of existing openings, sites away from waterbodies.

8. Invasive and Sensitive Species Management

The following are recommended practices to mitigate the risk of spreading invasive species on new and existing trails (From *Guidance for Invasive Species Management in the Southwestern Region***):**

Best Management Practices (BMPs) that may be implemented to prevent establishment of invasive plants by off- road vehicles and equipment include—

- Map invasive weed-infested areas and establish measures such as no-travel zones to prevent spread from these areas. Ensure that areas designated as open to cross-

country travel under the Travel Management Rule (36 CFR 212.51) are actively managed for weeds.

- Locate weed-free areas where project equipment can be staged prior to commencement of project activities.

- Avoid invasive species populations when feasible and minimize spread of invasive species during any soil disturbing activities.

Measures that can be taken to prevent spread of invasive weeds in recreational areas include—

- Post messages on weed awareness and prevention practices at strategic locations such as trailheads, roads, boat launches, and forest entrances. Messages should discourage picking of unidentified "wildflowers" and discarding them along trails or roadways.

- Promptly post sites if invasive plant species are found and, if feasible, close access until infestation is controlled. In areas susceptible to weed infestations, limit vehicles to designated and maintained travel routes.

- Encourage public land users to inspect and clean motorized and mechanized trail vehicles of weeds and their seeds before recreating on public lands. If practical, provide facilities for cleaning contaminated vehicles and equipment.

- Annually inspect all campgrounds, trailheads, and recreation areas that are open to public vehicle use for weeds and treat new infestations. Chronic weed infestations should be assessed as to why they are occurring, and steps should be taken to mitigate or reduce the risk of infestation. Consider seasonal or full time closure to campgrounds, picnic areas, and other recreation use areas until weeds are reduced to levels that minimize potentials for spread.

- Maintain trailheads, boat launches, outfitter and public camps, picnic areas, airstrips, roads leading to trailheads, and other areas of concentrated public use in a weed-free condition.

- Inspect and document travel corridors in recreation sites for weeds and treat well before seed production. In areas susceptible to weed infestation, limit vehicles to designated travel routes.

Measures that can be taken to protect sensitive plant species include—

- Prior to project implementation, consult a Forest specialist (e.g. Ecologist, Biologist) to ensure target Region 3 plant species are correctly identified in the project area. If other sensitive plant species are detected (other than those currently

known to exist in the project area) follow sensitive plant species resource protection measures to minimize potential negative impacts.

- Where feasible and practical, avoid or minimize trail construction in locations of known populations of Region 3 sensitive plants.